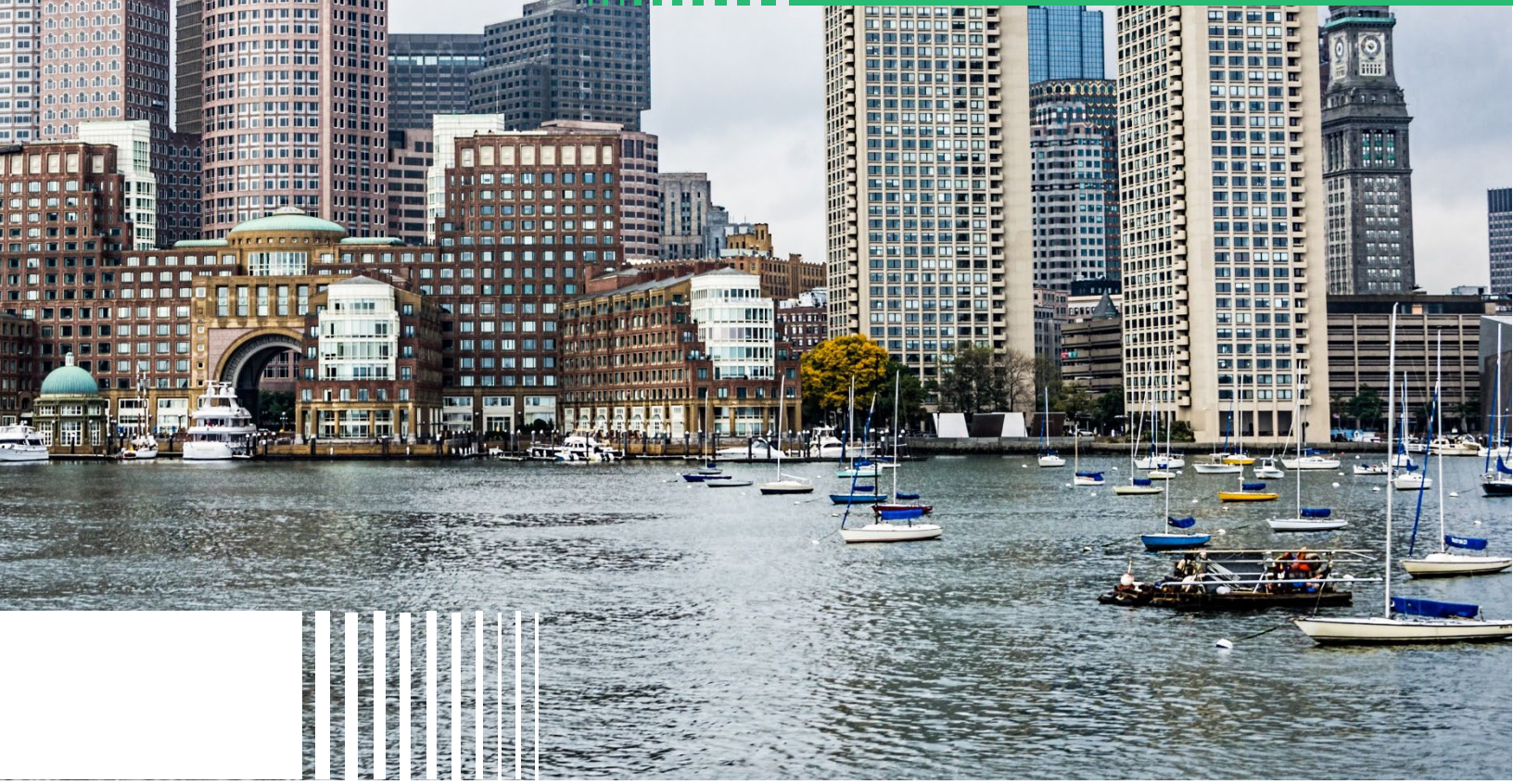
October 7, 2025

Proposal for AI Hub Data Commons Collaborative Consulting Services

RFP No. 2026-JAII-01
Massachusetts Technology Collaborative



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Attachment A

Application Cover Sheet

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October 7, 2025

Sabrina Mansur
Massachusetts Technology Collaborative
75 North Drive, Westborough, MA 01581

Subject: Response to RFP No. 2026-JAII-01

Dear Ms. Mansur & Evaluation Committee,

The Massachusetts AI Hub ("the Hub") has already laid important groundwork for the Data Commons Collaborative (DCC). Through the Hub, the Commonwealth has defined the vision, convened a diverse set of stakeholders, and developed initial perspectives on governance and operating models. The foundation is in place; the opportunity now is to make that vision real.

Our approach is structured around a phased, collaborative delivery model that ensures both rapid progress and lasting impact. We begin with a four-week Phase 0 focused on shaping and alignment – validating key assumptions, engaging stakeholders, and establishing design guardrails across governance, platform architecture, and data priorities. Building on this foundation, the initial delivery, which we refer to as "Version 1," will deliver a functional, FAIR-compliant DCC within six to nine months, including priority datasets, synthetic data pilots, and governance frameworks that embed trust, transparency, and equitable access. This approach balances speed with rigor, ensuring the Hub moves forward with clarity, alignment, and reduced delivery risk.

Before initiating the full build, we propose implementing this four-week Phase 0 as a structured shaping and alignment step. This phase will validate assumptions, align stakeholders, and establish strategic design guardrails such as platform approach, governance operating model, user personas and preferences, high-level roadmap, and dataset prioritization. This ensures the Hub moves into Version 1 with clarity and reduced risk. The Phase 0 investment can also be credited toward subsequent build phases if BCG is selected as delivery partner.

We view this procurement as the first phase of a multi-year journey to design, build, and scale the DCC. The upcoming six- to nine-month build will establish the foundation for the DCC – a real, working platform that demonstrates early impact while laying the groundwork for long-term sustainability, expansion, and growth. We see Version 1 as an opportunity to:

- **Demonstrate early value** by curating priority datasets and launching synthetic data pilots in sectors where Massachusetts has global leadership – such as healthcare, robotics, and education.
- **Build trust and momentum** by embedding initial governance guardrails, fairness dashboards, and security features that give stakeholders the confidence to contribute and participate.
- **Lay the foundation for scale** with a FAIR metadata catalog, dataset lineage, and Commons Credits to incentivize contributions and ensure equitable access.
- **Showcase adoption** by onboarding an initial cohort of researchers, startups, and agencies – proving that the Commons is usable, valuable, and ready to expand.

Team BCG is uniquely positioned to help the Hub deliver on this ambition. We bring:

- **Leadership in Massachusetts AI and innovation**, as a strategic advisor to the Hub in shaping the Hub's vision and strategy, with deep ties across healthcare, life sciences, robotics, education, finance, and the startup ecosystem that enable us to accelerate adoption quickly and sustainably.

- **Proven end-to-end delivery of data commons and platforms globally**, integrating strategy, governance, technical build, and adoption at scale.
- **Trusted expertise in governance, cybersecurity, and Responsible AI**, embedding fairness, compliance, and transparency into every solution.
- **A collaborative working style**, supported by our Activist PMO and Build-Operate-Transfer model, ensuring the Commons is built *with you*, *not just for you* and sustained long after consultants roll off.
- **Platform-agnostic partnerships** with Microsoft, Google, Amazon, and others, enabling us to guide the Hub to the best-fit solution without bias.

With these strengths, we will help the Hub move from vision to reality: delivering a functional platform in six to nine months, demonstrating early impact in priority sectors, and positioning the Hub as a national model for responsible and inclusive AI adoption.

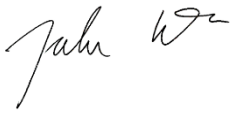
This proposal outlines our relevant experience, expert teams, and proprietary tools – and how they will be applied to support the successful design, launch, and long-term sustainability of the MA DCC.

We look forward to the opportunity to engage and further discuss how we can support you.

Sincerely,

Etugo Nwokah
Managing Director & Partner

Lisa Vura-Weis
Managing Director & Partner



John Wu
Managing Director & Partner

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Mapping of information requested in RFP to sections in the response

INFORMATION REQUESTED IN RFP	RESPONSE OR SECTION TO REFERENCE IN THIS DOCUMENT
Services Required	
Program management & coordination	4.1 Phase 0: Shaping and alignment 4.2 Overview of delivery approach for Version 1 4.5 Version 1 detailed workplan & milestones 5.1 Resourcing model
Technical architecture, platform development & delivery experience	4.4 Version 1 build and impact 4.2 Overview of delivery approach for Version 1
Dataset curation, metadata standards & integration	4.3 Roadmap for the DCC 4.4 Version 1 build and impact 3.3 Capabilities that need to be built
Synthetic data capability	4.3 Roadmap for the DCC 4.4 Version 1 build and impact 5.4.4 Case study example (Manufacturing)
AI fairness & bias framework	4.4 Version 1 build and impact 3.3 Capabilities that need to be built
Security, governance & compliance	4.4 Version 1 build and impact 3.3 Capabilities that need to be built
Testing, rollout & adoption	4.4 Version 1 build and impact 3.3 Capabilities that need to be built
Deliverables	4.1.1 Phase 0 Deliverables 4.5 Version 1 detailed workplan and deliverables
Required submissions	
Description of firm & team qualifications	2.0 Why Team BCG 5.3 Team qualifications 5.4 Case studies: BCG's delivery experience 5.5 Proven delivery experience with IBM 6.1 Organizational description
Proposed project plan and approach to providing services	4.0 Our approach
Resumes of key personnel	6.2 Leadership team biographies 6.3 Additional expertise
Three examples of work with references	5.4.1 Case study: New Jersey 5.4.2 Case study: National Grid 5.5.2 Case study: Intermountain Healthcare
Pricing & budget	7.2 Attachment C
W-9	7.3 Respondent's W-9
Authorized application signature & acceptance form	7.1 Attachment B

1 Our understanding

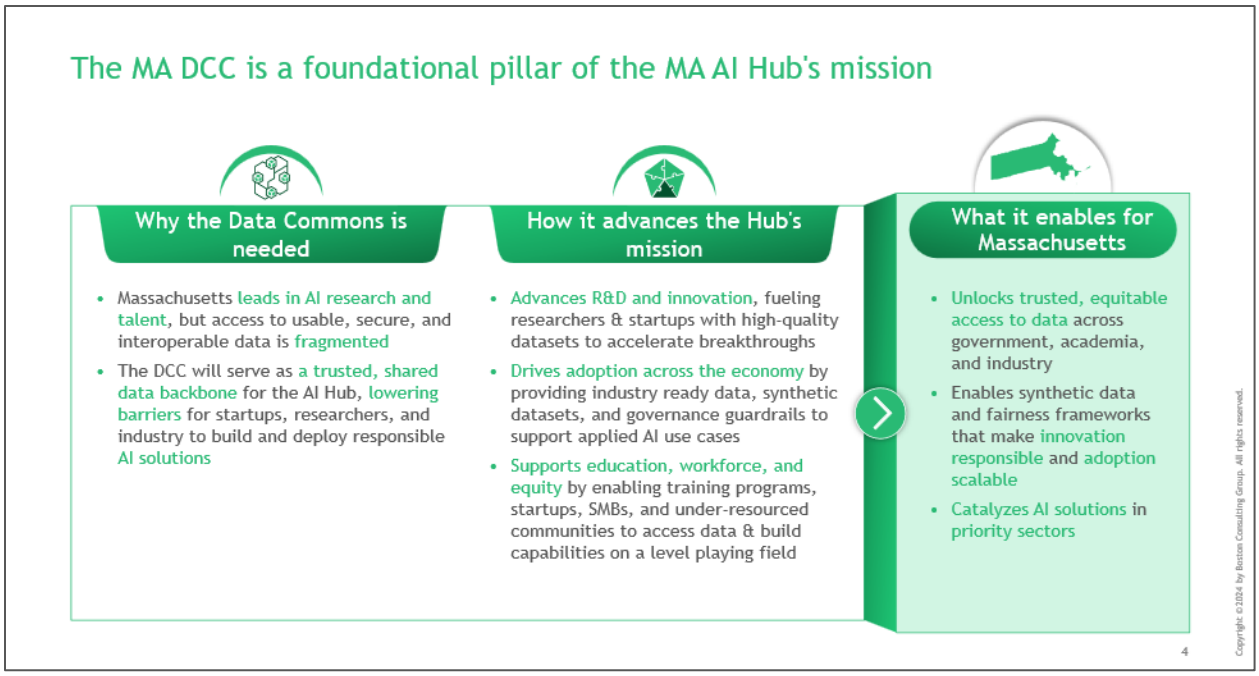
1.1 Context for the Massachusetts Data Commons Collaborative

Massachusetts has long been recognized as a global hub of innovation. The Commonwealth is home to world-leading public and private institutions in life sciences, healthcare, robotics, advanced manufacturing, education, and financial services. These assets position Massachusetts to lead in the age of artificial intelligence (AI) – not only in research and development, but in demonstrating how AI can be adopted responsibly and inclusively to benefit communities across the state.

MassTech, through the Hub, has taken bold steps to sustain this leadership. The Hub was created to accelerate AI research and development, drive adoption across sectors, and ensure equitable access to the opportunities created by AI. A central component of this mission is the Massachusetts Data Commons Collaborative (DCC). As shown in Exhibit 1, the DCC will serve as the trusted, FAIR, and equitable data backbone that unlocks innovation across priority sectors, expands participation to startups and under-resourced communities, and establishes Massachusetts as a national model for responsible AI adoption.

While the vision is ambitious, it is also highly pragmatic and urgently needed. Data today is fragmented, siloed across institutions, and often inaccessible to the researchers, innovators, and entrepreneurs who could make the best use of it. Without a trusted governance model, incentives for contribution, and common standards for interoperability, Massachusetts risks slowing adoption and missing opportunities for economic development and growth. With a well-implemented Data Commons, however, the Hub can turn these barriers into enablers – making data discoverable, usable, and trusted, while accelerating innovation, entrepreneurship, and job creation across the state.

Exhibit 1: The role of the DCC in advancing the AI Hub's mission


The MA DCC is a foundational pillar of the MA AI Hub's mission
Why the Data Commons is needed
Massachusetts leads in AI research and talent, but access to usable, secure, and interoperable data is fragmented
The DCC will serve as a trusted, shared data backbone for the AI Hub, lowering barriers for startups, researchers, and industry to build and deploy responsible AI solutions
How it advances the Hub's mission
Advances R&D and innovation, fueling researchers & startups with high-quality datasets to accelerate breakthroughs
Drives adoption across the economy by providing industry ready data, synthetic datasets, and governance guardrails to support applied AI use cases
Supports education, workforce, and equity by enabling training programs, startups, SMBs, and under-resourced communities to access data & build capabilities on a level playing field
What it enables for Massachusetts
Unlocks trusted, equitable access to data across government, academia, and industry
Enables synthetic data and fairness frameworks that make innovation responsible and adoption scalable
Catalyzes AI solutions in priority sectors
4

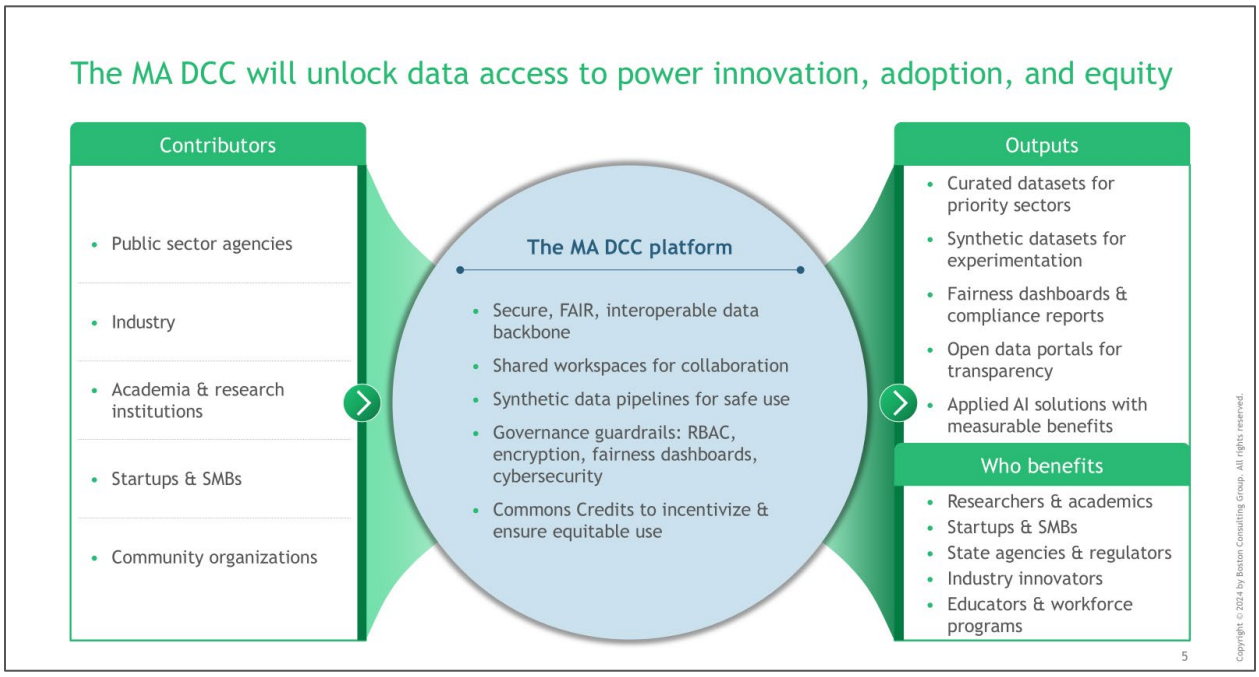
1.2 Groundwork already laid by the AI Hub

The Hub is not starting from scratch. Over the past several months, we have been fortunate to work alongside the Hub as it laid the groundwork for the DCC. Together, we've driven important progress that positions the Hub well for execution:

- A clear vision and ambition. Through the RFP process and working group deliberations, the Hub has articulated what the DCC should achieve and the outcomes it must deliver.
- Governance structures taking shape. A working group and co-chairs have been appointed, and subcommittees organized around priority tasks.
- Broad stakeholder engagement. Academia, industry, startups, and the public sector have all been brought into the conversation, creating alignment across the ecosystem.
- Clarity on challenges and communities to serve. The Hub has deliberately defined the problems to solve and the constituents who should benefit most.
- Early perspectives on governance and operations. Initial ideas for how the Commons could be managed, how data could be governed, and how fairness and trust could be ensured are already on the table.

This early progress is significant. Many states struggle to even align stakeholders or articulate a shared vision. The Hub is ahead of the curve, with consensus established and momentum building. Exhibit 2 lays out how this foundation connects contributors to the DCC platform, outputs, and who benefits, reinforcing that the program is ready to move quickly into execution.

Exhibit 2: How the DCC connects contributors, platform capabilities & outcomes for MA


The MA DCC will unlock data access to power innovation, adoption, and equity
Contributors
Public sector agencies
Industry
Academia & research institutions
Startups & SMBs
Community organizations
The MA DCC platform
Secure, FAIR, interoperable data backbone
Shared workspaces for collaboration
Synthetic data pipelines for safe use
Governance guardrails: RBAC, encryption, fairness dashboards, cybersecurity
Commons Credits to incentivize & ensure equitable use
Outputs
Curated datasets for priority sectors
Synthetic datasets for experimentation
Fairness dashboards & compliance reports
Open data portals for transparency
Applied AI solutions with measurable benefits
Who benefits
Researchers & academics
Startups & SMBs
State agencies & regulators
Industry innovators
Educators & workforce programs
5
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1.3 The opportunity ahead and the "art of the possible"

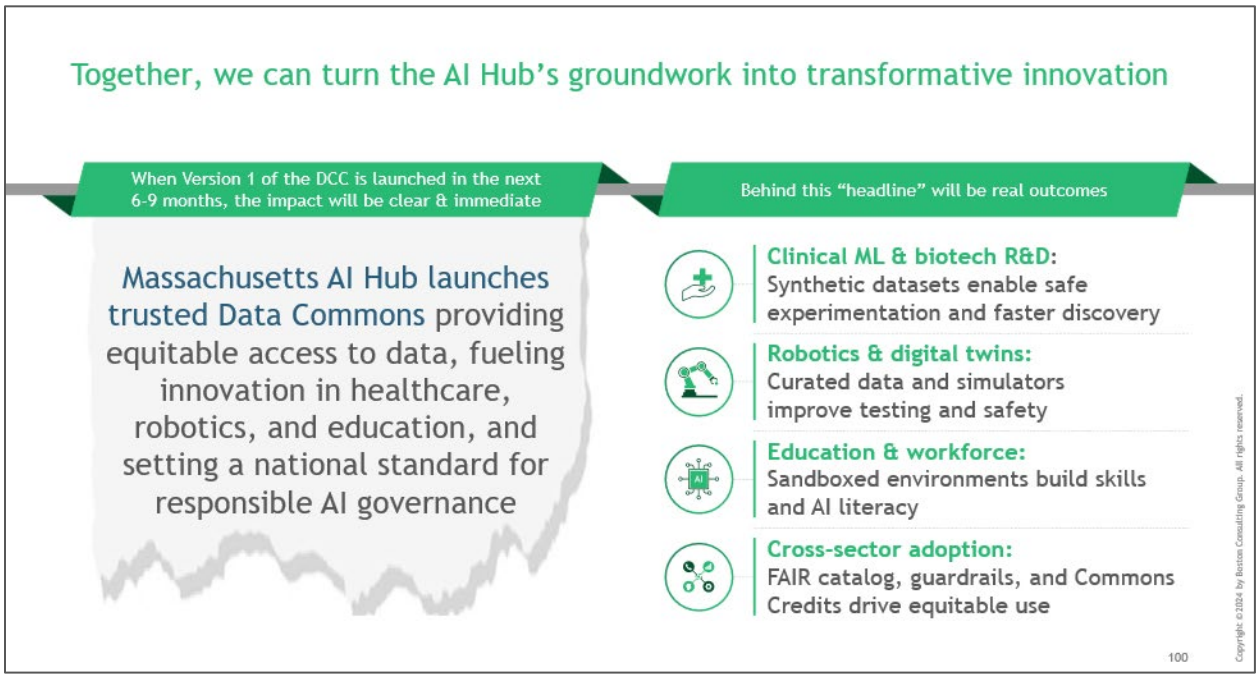
The next step is to translate this vision into a tangible platform. The risk of not acting is real: without a Commons, data will remain fragmented, innovators will continue to struggle with access, and stakeholders may lose momentum. Massachusetts would also miss the opportunity to translate its strengths in priority sectors like healthcare, robotics, and education, into broader economic growth and workforce development.

With a well-implemented Data Commons, the Hub can instead:

- Fuel innovation in priority sectors. By curating datasets and enabling synthetic data pilots, the DCC can accelerate clinical trial design in healthcare, support robotics testing and digital twin simulations, and expand AI-driven skill-building in education.
- Ensure equitable access and adoption. Through Commons Credits, tiered access, and multilingual accessibility, startups, small- and medium-sized businesses (SMBs), and under-resourced communities can participate on a level playing field.
- Build trust and transparency. Role-based access, encryption, and fairness dashboards will create confidence that data is being shared responsibly.
- Set a national model. Massachusetts can establish itself as the state that not only leads in AI research but also demonstrates how to operationalize AI responsibly and inclusively.

The timing is critical. Interest in AI is surging nationally, and other states are making investments. By operationalizing the DCC now, the Hub can convert its early leadership into tangible impact, economic growth, and national visibility (Exhibit 3).

Exhibit 3: The art of the possible: What MA can achieve with Version 1 of the DCC


Together, we can turn the AI Hub's groundwork into transformative innovation
When Version 1 of the DCC is launched in the next 6-9 months, the impact will be clear & immediate
Massachusetts AI Hub launches trusted Data Commons providing equitable access to data, fueling innovation in healthcare, robotics, and education, and setting a national standard for responsible AI governance
Behind this "headline" will be real outcomes
Clinical ML & biotech R&D:
Synthetic datasets enable safe experimentation and faster discovery
Robotics & digital twins:
Curated data and simulators improve testing and safety
Education & workforce:
Sandboxed environments build skills and AI literacy
Cross-sector adoption:
FAIR catalog, guardrails, and Commons Credits drive equitable use
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These are not abstract possibilities. They are the tangible innovations that the Hub can enable in Version 1 – within 6-9 months – while establishing the foundation for long-term scale.

2 Why Team BCG

Team BCG is uniquely positioned to help deliver on this ambition. As the primary contractor, Boston Consulting Group (BCG) will lead program management, governance, Responsible AI, and overall delivery discipline. To complement this expertise, we have partnered with IBM as our integrated engineering and systems integration partner. IBM has been BCG's integrated engineering collaborator since 2018, bringing full-stack product and data engineering experience and expertise, flexible "one-team" delivery models, managed services backed by 25+ joint cases, and over 200+ contributors.

Together as Team BCG, we cover the full lifecycle from product strategy and design, through build, launch, and operate. This ensures that the Hub benefits from BCG's governance and program management expertise, combined with IBM's technical depth and build-to-run services. In practice, this means we can guide the Hub from vision through implementation, delivering both early impact and long-term sustainability. Specifically, we bring:

- **Leadership in Massachusetts AI and innovation**. We have been a strategic advisor to MassTech in shaping the Hub's vision, convening stakeholders, and helping set the strategy for the Hub. As demonstrated through this work, BCG has a longstanding presence across Massachusetts' priority sectors – supporting leading hospitals and research institutions in healthcare and life sciences, advising global biopharma and financial services firms headquartered in the Commonwealth, and engaging with universities, robotics and advanced manufacturing leaders, and startups across the innovation ecosystem. These deep ties give us a unique vantage point into how stakeholders operate, what they value, and how to accelerate adoption quickly and sustainably.
- **Proven end-to-end delivery**. We have delivered all aspects of data commons and platform initiatives globally – from strategy and governance to technical architecture,

commercialization, and adoption – across all of Massachusetts' priority sectors. For example, we built capacity within a state government to deploy GenAI, modernized a multinational utility's data infrastructure with a federated platform, launched an interoperable self-service data platform for Universal Music Group, validated the feasibility of synthetic data for manufacturing quality assurance, and established statewide Responsible AI governance and decision-making frameworks. Backed by BCG's Center for Digital Government – which has led 850+ digital engagements across North America – and BCG X, our 3,000+ technologists and data scientists, our teams bring both scale and experience in delivering complex, high-impact programs.

- Trusted in governance, cybersecurity, and Responsible AI. BCG is recognized globally for setting the standard in Responsible AI and governance. Our Responsible AI program has reviewed more than 500 use cases, including over 50 high-risk applications, and has been independently recognized by the Responsible AI Institute, IDC, and others. We have partnered with organizations such as the World Economic Forum, IEEE, Mila, and the Bipartisan Policy Center to shape AI governance best practices, and our work has been featured in publications including Bloomberg, CNN, Forbes, and MIT Sloan Management Review. Our work with public sector organizations demonstrates a strong record of delivering governance at scale – for example, we developed a cloud-native data platform for more than 4,000 users, integrating data from over 60 systems and identifying more than $100M in value through standardized governance and a Common Data Mode. These experiences demonstrate our ability to embed fairness dashboards, bias audits, and compliance guardrails while balancing innovation with equity and public trust.
- Collaboration across the ecosystem. We know that success requires more than technology. Our style is to work side-by-side with clients and stakeholders, not at arm's length. We have already demonstrated this through our work with MassTech, helping convene stakeholders across academia, industry, and startups to align on the vision for the Hub. We also apply an Activist PMO approach – staying deeply engaged, holding delivery partners accountable, and ensuring the Commons delivers measurable outcomes rather than simply outputs. Combined with our proven Build-Operate-Transfer (BOT) model, this means the Hub will own the Commons from day one, while benefiting from BCG's ability to accelerate setup, build capacity, and transfer knowledge. The result is a platform built with you, not just for you – ensuring buy-in across the ecosystem and leaving the state with the capabilities to sustain and scale independently.
- Strategic partnerships with leading technology providers. We are platform-agnostic, with trusted relationships across all leading technology providers. Our collaborations with Microsoft, Google, Amazon, and others give us early access to tools and insights, and we have co-developed solutions with multiple partners globally. This breadth allows us to help the Hub select the best-fit platform architecture without bias – ensuring the Commons is built on scalable, interoperable, and future-proof technology. Should we be selected, we intend to activate the full synergies of our partnerships with these providers – delivering trusted, scalable solutions built on complementary strengths.
- We bring the perspective of real-world product builders and users. We have deep experience designing and delivering innovative products across sectors – from experimental software as a medical device to custom AI/ML development and the integration of GenAI into enterprise applications. We understand not only how to architect and build platforms like the DCC, but also how they will be used to generate insights, accelerate research, and deliver impact. This dual perspective – as both creators and consumers – ensures the Commons is designed with the end user experience at its core.

3 Perspectives & lessons learned

Massachusetts has already taken bold steps to establish the Data Commons Collaborative (DCC) as a foundational element of the Hub. Based on BCG's global work building data platforms, commons, and governance frameworks, we bring a clear perspective on what it will take for the DCC to succeed, and the risks to avoid.

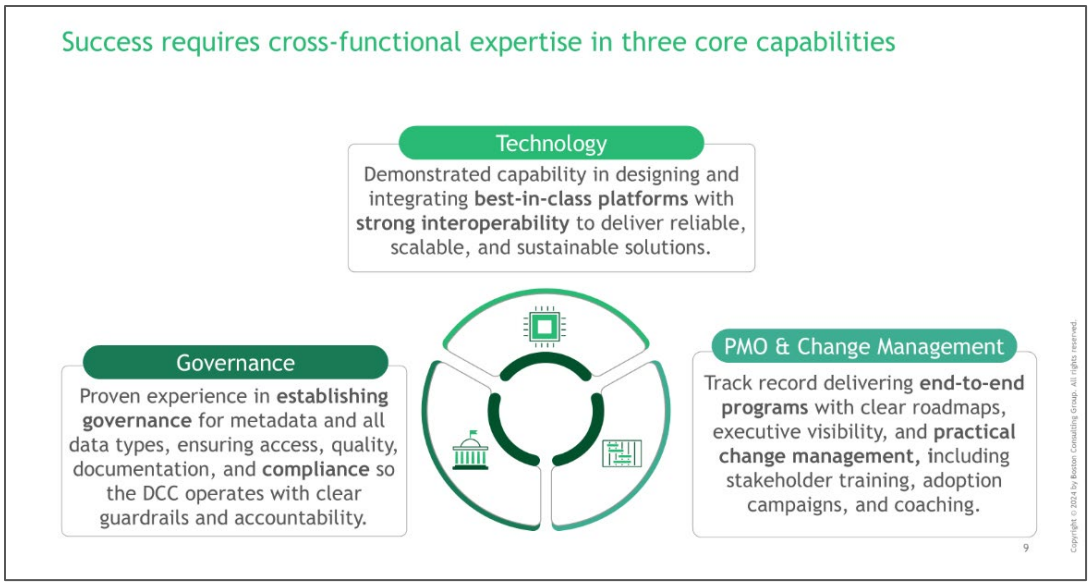
3.1 What the DCC needs to succeed

For the DCC to deliver durable impact, it must simultaneously ensure **innovation**, **access**, **trust**, and **sustainability**. This means:

- Catalyzing synthetic data adoption through curated sector-specific use cases
- Standing up a FAIR, easily discovery platform that connects public and private datasets
- Embedding compliance and fairness guardrails from day one, and
- Sustaining participation over the long term with incentives such as Commons Credits

As shown in **Exhibit 4**, success depends on three core capabilities working together, namely technology, governance, and program management and change management.

Exhibit 4: Success requires cross-functional experience across governance, tech & program management


Success requires cross-functional expertise in three core capabilities
Technology
Demonstrated capability in designing and integrating best-in-class platforms with strong interoperability to deliver reliable, scalable, and sustainable solutions.
Governance
Proven experience in establishing governance for metadata and all data types, ensuring access, quality, documentation, and compliance so the DCC operates with clear guardrails and accountability.
PMO & Change Management
Track record delivering end-to-end programs with clear roadmaps, executive visibility, and practical change management, including stakeholder training, adoption campaigns, and coaching.
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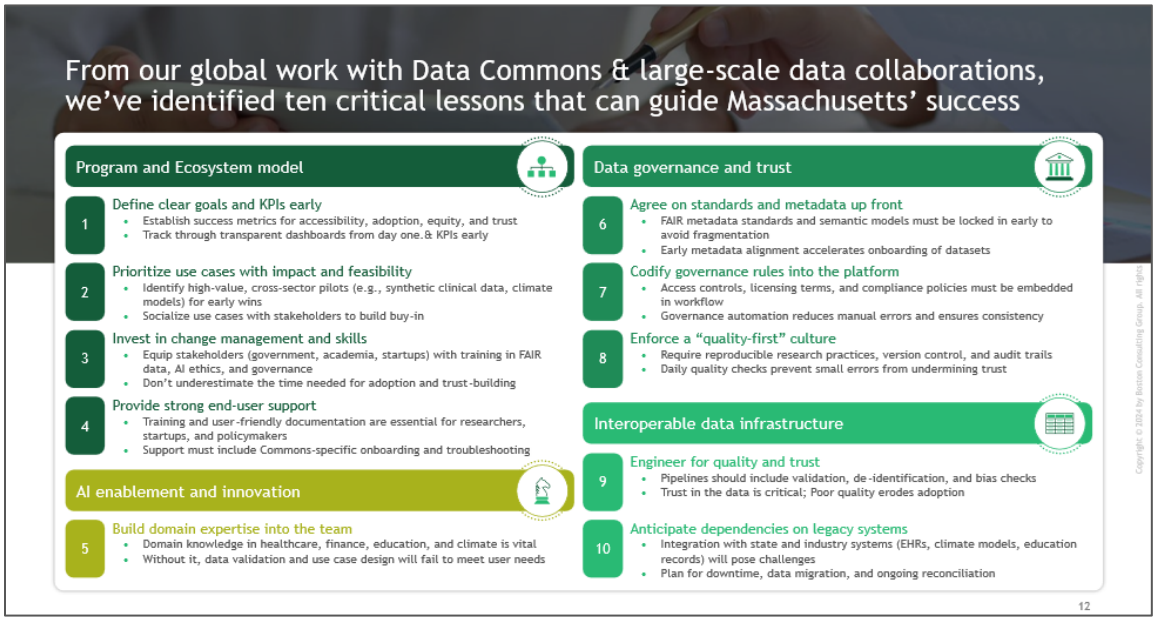
3.2 Lessons from our global experience

With these imperatives defined, the next question is how to realize them in practice. Across data commons and large-scale collaborations worldwide, BCG has observed a consistent set of lessons that separate programs that deliver lasting value from those that stall. The lessons introduced in Exhibit 5 cut across governance, infrastructure, program design, and adoption – and they are directly relevant to the Hub as it embarks on this journey.

Exhibit 5: 10 lessons from BCG's global Data Commons experience to guide MA's success


From our global work with Data Commons & large-scale data collaborations, we've identified ten critical lessons that can guide Massachusetts' success
Program and Ecosystem model
1 Define clear goals and KPIs early
• Establish success metrics for accessibility, adoption, equity, and trust
• Track through transparent dashboards from day one.& KPIs early
2 Prioritize use cases with impact and feasibility
• Identify high-value, cross-sector pilots (e.g., synthetic clinical data, climate models) for early wins
• Socialize use cases with stakeholders to build buy-in
3 Invest in change management and skills
• Equip stakeholders (government, academia, startups) with training in FAIR data, AI ethics, and governance
• Don't underestimate the time needed for adoption and trust-building
4 Provide strong end-user support
• Training and user-friendly documentation are essential for researchers, startups, and policymakers
• Support must include Commons-specific onboarding and troubleshooting
AI enablement and innovation
5 Build domain expertise into the team
• Domain knowledge in healthcare, finance, education, and climate is vital
• Without it, data validation and use case design will fail to meet user needs
Data governance and trust
6 Agree on standards and metadata up front
• FAIR metadata standards and semantic models must be locked in early to avoid fragmentation
• Early metadata alignment accelerates onboarding of datasets
7 Codify governance rules into the platform
• Access controls, licensing terms, and compliance policies must be embedded in workflow
• Governance automation reduces manual errors and ensures consistency
8 Enforce a "quality-first" culture
• Require reproducible research practices, version control, and audit trails
• Daily quality checks prevent small errors from undermining trust
Interoperable data infrastructure
9 Engineer for quality and trust
• Pipelines should include validation, de-identification, and bias checks
• Trust in the data is critical; Poor quality erodes adoption
10 Anticipate dependencies on legacy systems
• Integration with state and industry systems (EHRs, climate models, education records) will pose challenges
• Plan for downtime, data migration, and ongoing reconciliation
12

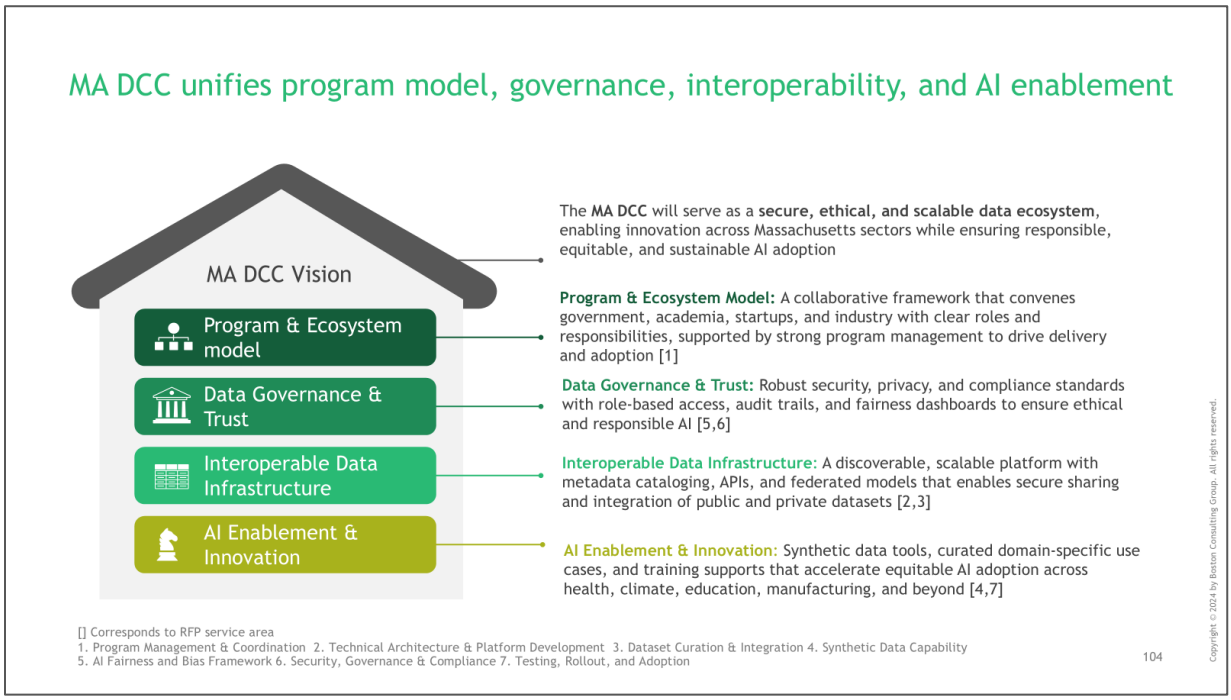
From our global experience, the hardest lessons are not just about designing platforms, but about ensuring they are adopted and scaled. Governance, metadata, and synthetic data pipelines are

essential – but insufficient if the Commons is not trusted, used, and sustained. Adoption requires early onboarding, training, and responsive support; scale requires codified standards, clear playbooks, and aligned incentives such as Commons Credits to sustain participation and prevent "pilot fatigue."

3.3 Capabilities that need to be built

These lessons translate directly into the capabilities the Hub must now build, organized into four RPF-aligned pillars described in Exhibit 6.

Exhibit 6. The DCC must deliver across four key dimensions to realize its vision


MA DCC unifies program model, governance, interoperability, and AI enablement
MA DCC Vision
Program & Ecosystem model
Data Governance & Trust
Interoperable Data Infrastructure
AI Enablement & Innovation
The MA DCC will serve as a secure, ethical, and scalable data ecosystem, enabling innovation across Massachusetts sectors while ensuring responsible, equitable, and sustainable AI adoption
Program & Ecosystem Model: A collaborative framework that convenes government, academia, startups, and industry with clear roles and responsibilities, supported by strong program management to drive delivery and adoption [1]
Data Governance & Trust: Robust security, privacy, and compliance standards with role-based access, audit trails, and fairness dashboards to ensure ethical and responsible AI [5,6]
Interoperable Data Infrastructure: A discoverable, scalable platform with metadata cataloging, APIs, and federated models that enables secure sharing and integration of public and private datasets [2,3]
AI Enablement & Innovation: Synthetic data tools, curated domain-specific use cases, and training supports that accelerate equitable AI adoption across health, climate, education, manufacturing, and beyond [4,7]
[] Corresponds to RFP service area
1. Program Management & Coordination 2. Technical Architecture & Platform Development 3. Dataset Curation & Integration 4. Synthetic Data Capability
5. AI Fairness and Bias Framework 6. Security, Governance & Compliance 7. Testing, Rollout, and Adoption
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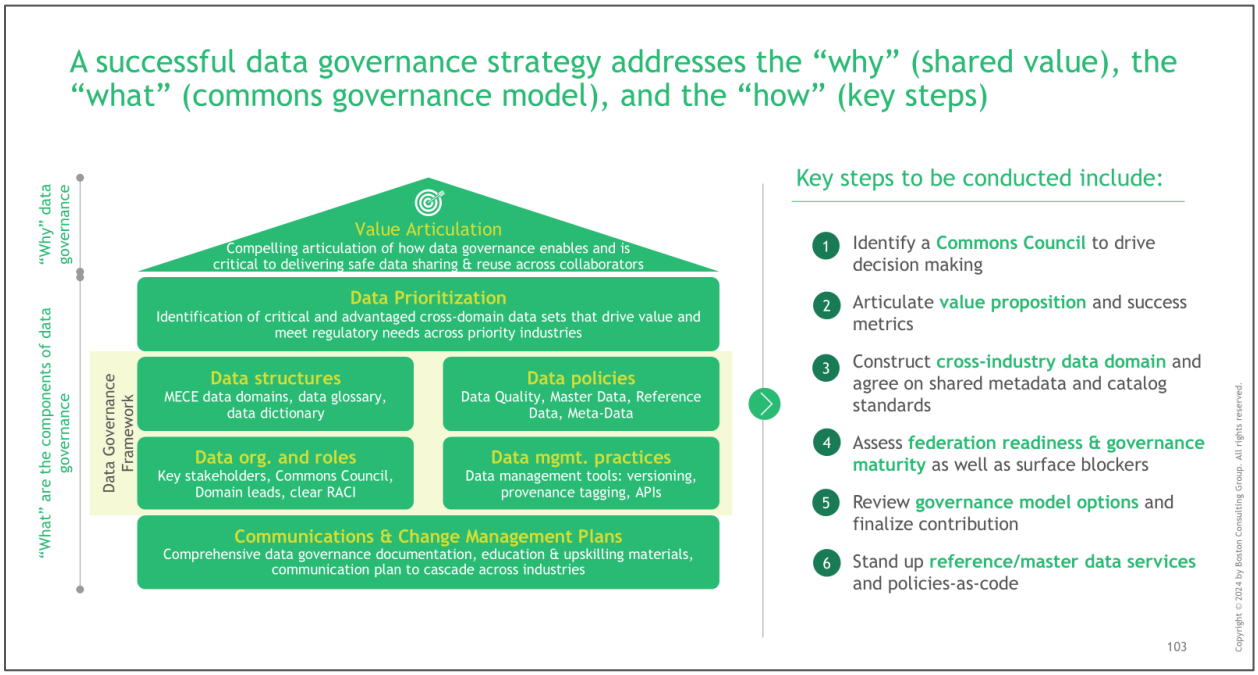
Together, these pillars make the DCC more than a technical platform, but rather, a secure, ethical, and scalable data ecosystem that accelerates responsible, equitable AI across Massachusetts.

- Program & Ecosystem Model *(RFP Service Area 1 – Program Management & Coordination)*. In Version 1, prioritize establishing credibility by standing up a cross-sector governance board with clear decision rights and a pragmatic operating model. From day one, define goals and KPIs and publish them through dashboards so progress is visible. Focus on a small set of high-impact, feasible use cases and socialize them early to build buy-in. In parallel, embed change management and role-based training in FAIR data, AI ethics, and governance, and provide responsive end-user support so adoption takes hold quickly and scales over time (*as seen in case study 5.4.1 – New Jersey*).
- Data Governance & Trust *(RFP Service Areas 5 & 6: AI Fairness & Bias Framework; Security, Governance, & Compliance)*. The Commons should embed security and trust at the core with a governance model that connects the why, what, and how (Exhibit 7), anchoring responsible, equitable, and sustainable AI adoption *(as seen in case study 5.4.5 – Michigan)*. Version 1 should

implement role-based access controls, multi-factor authentication, encryption, audit logs, and initial fairness dashboards to monitor dataset-level bias. Agree on metadata standards early and codify governance rules directly into the platform to establish a quality-first culture that can be expanded and automated in later versions (*as seen in case study 5.4.2 – National Grid*).

Exhibit 7: BCG's data governance framework


A successful data governance strategy addresses the "why" (shared value), the "what" (commons governance model), and the "how" (key steps)
"Why" data governance
"What" are the components of data governance
Value Articulation
Compelling articulation of how data governance enables and is critical to delivering safe data sharing & reuse across collaborators
Data Prioritization
Identification of critical and advantaged cross-domain data sets that drive value and meet regulatory needs across priority industries
Data Governance Framework
Data structures
MECE data domains, data glossary, data dictionary
Data policies
Data Quality, Master Data, Reference Data, Meta-Data
Data org. and roles
Key stakeholders, Commons Council, Domain leads, clear RACI
Data mgmt. practices
Data management tools: versioning, provenance tagging, APIs
Communications & Change Management Plans
Comprehensive data governance documentation, education & upskilling materials, communication plan to cascade across industries
Key steps to be conducted include:
1 Identify a Commons Council to drive decision making
2 Articulate value proposition and success metrics
3 Construct cross-industry data domain and agree on shared metadata and catalog standards
4 Assess federation readiness & governance maturity as well as surface blockers
5 Review governance model options and finalize contribution
6 Stand up reference/master data services and policies-as-code
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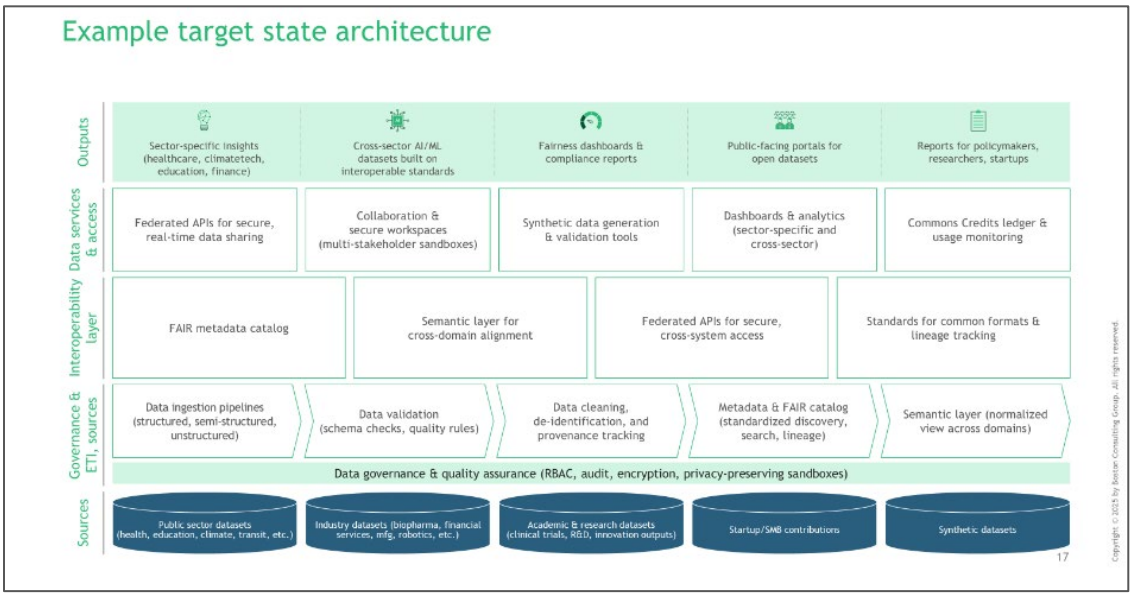
- Interoperable Data Infrastructure *(RFP Service Areas 2 & 3: Technical Architecture & Platform Development; Dataset Curation & Integration)*. For the initial release, focus on essentials that make data findable and usable on day one. Stand up a FAIR-aligned metadata catalog with dataset-level lineage and ingestion pipelines for both structured and unstructured data (*as seen in case study 5.4.3 – Universal Music Group*). Expose data through multiple access modes with validation and provenance checks built in (Exhibit 8). That baseline enables immediate discovery and trust while laying the foundation for federated discovery, stronger observability, and multimodal expansion in future phases.

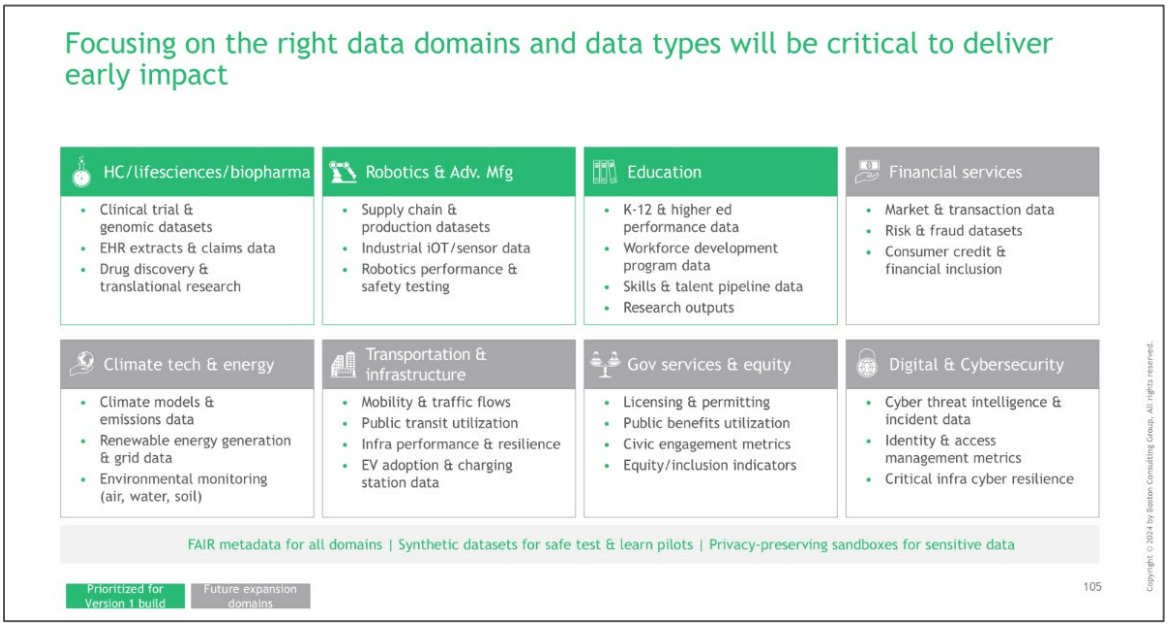
Exhibit 8: Target state architecture for an interoperable data infrastructure


Example target state architecture
Outputs
Sector-specific insights (healthcare, climatetech, education, finance)
Cross-sector AI/ML datasets built on interoperable standards
Fairness dashboards & compliance reports
Public-facing portals for open datasets
Reports for policymakers, researchers, startups
Data services & access
Federated APIs for secure, real-time data sharing
Collaboration & secure workspaces (multi-stakeholder sandboxes)
Synthetic data generation & validation tools
Dashboards & analytics (sector-specific and cross-sector)
Commons Credits ledger & usage monitoring
Interoperability layer
FAIR metadata catalog
Semantic layer for cross-domain alignment
Federated APIs for secure, cross-system access
Standards for common formats & lineage tracking
Governance & ETL, sources
Data ingestion pipelines (structured, semi-structured, unstructured)
Data validation (schema checks, quality rules)
Data cleaning, de-identification, and provenance tracking
Metadata & FAIR catalog (standardized discovery, search, lineage)
Semantic layer (normalized view across domains)
Data governance & quality assurance (RBAC, audit, encryption, privacy-preserving sandboxes)
Sources
Public sector datasets (health, education, climate, transit, etc.)
Industry datasets (biopharma, financial services, mfg, robotics, etc.)
Academic & research datasets (clinical trials, R&D, innovation outputs)
Startup/SMB contributions
Synthetic datasets
17

For more detailed technical architecture, please refer to Section 4.4

- AI Enablement & Innovation *(RFP Service Areas 4 & 7: Synthetic Data Capability; Testing, Rollout & Adoption)*. To demonstrate value early, start with a handful of sector pilots in healthcare, robotics, and education (Exhibit 9). Provide curated datasets, synthetic data pipelines, and secure sandboxes where researchers, startups, and students can experiment responsibly *(as seen in case study 5.4.4 – Manufacturing).* Pair this with clear training, practical documentation, and fairness dashboards to help users adopt best practices from the start. From there, Version 2+ can widen to additional sectors, multimodal data, and real-time fairness monitoring.

Exhibit 9: Priority domains and data types needed to accelerate early AI impact


Focusing on the right data domains and data types will be critical to deliver early impact
HC/lifesciences/biopharma
Clinical trial & genomic datasets
EHR extracts & claims data
Drug discovery & translational research
Robotics & Adv. Mfg
Supply chain & production datasets
Industrial iOT/sensor data
Robotics performance & safety testing
Education
K-12 & higher ed performance data
Workforce development program data
Skills & talent pipeline data
Research outputs
Financial services
Market & transaction data
Risk & fraud datasets
Consumer credit & financial inclusion
Climate tech & energy
Climate models & emissions data
Renewable energy generation & grid data
Environmental monitoring (air, water, soil)
Transportation & infrastructure
Mobility & traffic flows
Public transit utilization
Infra performance & resilience
EV adoption & charging station data
Gov services & equity
Licensing & permitting
Public benefits utilization
Civic engagement metrics
Equity/inclusion indicators
Digital & Cybersecurity
Cyber threat intelligence & incident data
Identity & access management metrics
Critical infra cyber resilience
FAIR metadata for all domains | Synthetic datasets for safe test & learn pilots | Privacy-preserving sandboxes for sensitive data
Prioritized for Version 1 build
Future expansion domains
105

These dimensions operationalize the DCC's vision. In Version 1, the focus will be on building the foundations and demonstrating tangible value within 6-9 months. In parallel, the necessary scaffolding will be put in place, including codified technical and governance standards, role-based training, playbooks, documentation, and aligned incentives, so that Version 1 delivers not only a platform but also the conditions for sustained adoption and scale. Together, these dimensions enable the DCC to grow into a resilient, collaborative ecosystem for responsible AI across MA.

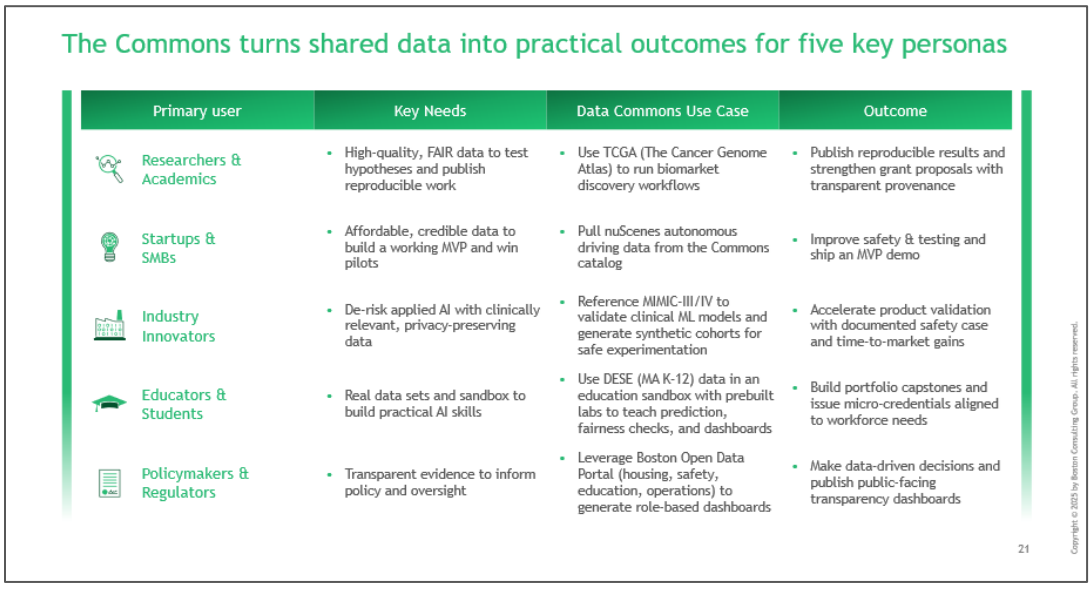
3.4 Who the DCC will serve

With the four core delivery dimensions of the DCC – Program & Ecosystem Model, Data Governance & Trust, Interoperable Data Infrastructure, and AI Enablement & Innovation – clearly established, the next step is to anchor them to the stakeholders who will access, contribute to, and benefit from trusted data in the Commons. Through our work with the Hub, we see five primary user personas that the DCC must serve from day one:

- Researchers & Academics looking for curated, FAIR-aligned datasets and synthetic data to run experiments safely, validate hypotheses, and publish reproducible results.
- Startups & SMBs seeking equitable access to data that is typically out of reach, paired with incentives (Commons Credits) to contribute and transparent guardrails to build trust.
- State Agencies & Regulators requiring transparency, dashboards, and bias/fairness audits to make informed decisions and ensure responsible governance across sectors.
- Industry Innovators including biopharma, robotics, financial services, and advanced manufacturing leaders who need sector-specific data to accelerate applied AI use cases, digital twins, and product innovation.
- Educators & Workforce programs benefiting from sandboxed environments for responsible experimentation, skill-building, and AI literacy that align with workforce development needs.

Together, these personas illustrate the breadth of the DCC's impact: advancing discovery, fueling innovation, building skills, and ensuring trust, as depicted in Exhibit 10.

Exhibit 105: The DCC drives tangible outcomes for five primary user personas


The Commons turns shared data into practical outcomes for five key personas
Primary user
Key Needs
Data Commons Use Case
Outcome
Researchers & Academics
High-quality, FAIR data to test hypotheses and publish reproducible work
Use TCGA (The Cancer Genome Atlas) to run biomarket discovery workflows
Publish reproducible results and strengthen grant proposals with transparent provenance
Startups & SMBs
Affordable, credible data to build a working MVP and win pilots
Pull nuScenes autonomous driving data from the Commons catalog
Improve safety & testing and ship an MVP demo
Industry Innovators
De-risk applied AI with clinically relevant, privacy-preserving data
Reference MIMIC-III/IV to validate clinical ML models and generate synthetic cohorts for safe experimentation
Accelerate product validation with documented safety case and time-to-market gains
Educators & Students
Real data sets and sandbox to build practical AI skills
Use DESE (MA K-12) data in an education sandbox with prebuilt labs to teach prediction, fairness checks, and dashboards
Build portfolio capstones and issue micro-credentials aligned to workforce needs
Policymakers & Regulators
Transparent evidence to inform policy and oversight
Leverage Boston Open Data Portal (housing, safety, education, operations) to generate role-based dashboards
Make data-driven decisions and publish public-facing transparency dashboards
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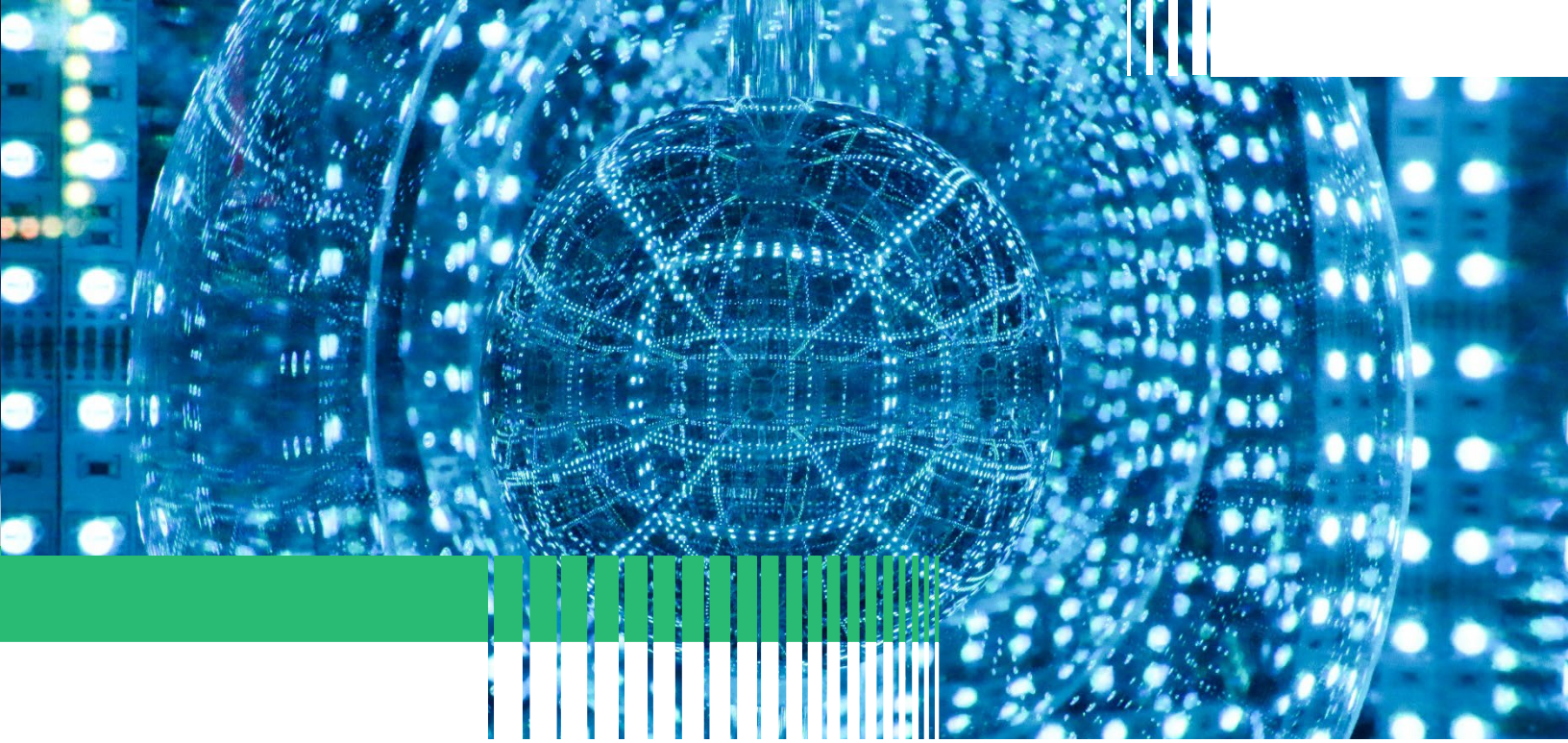

4 Our approach

4.1 Four-week Phase 0: Shaping and alignment

Before launching into the full build, the Hub needs to resolve a set of **strategic design choices** that will shape the trajectory of the Data Commons for years to come. These are not binary yes/no questions – they involve tradeoffs across cost, speed, flexibility, and long-term scale. Phase 0 is an intentional precursor to the Version 1 build we propose later in the RFP, with the goal of crystallizing the "what and why" so that Version 1 can focus on execution.

To set the right foundation, we propose a **four-week Phase-0 shaping phase as a prerequisite step to Version 1 delivery.** Phase 0 ensures the Hub moves into Version 1 with alignment, clarity, and reduced risk – making the right decisions once, upfront, rather than reworking downstream. This work will be run collaboratively with the Hub to refine the shared vision, confirm priorities, and establish the operating guardrails that Version 1 will implement. Sections 4.2-4.3 capture our initial hypotheses for Version 1 including scope, expertise, and key assumptions, which will be refined in this phase.

The purpose of Phase 0 is to:

- Validate key assumptions and align stakeholders on the vision
- Surface and resolve the most critical strategic questions
- Establish checkpoints, governance, and a downstream resourcing plan before major investments are committed
- Define high-level platform and cloud infrastructure requirements, and gather inputs from potential providers to inform the subsequent selection and onboarding during the Design phase – balancing interoperability, FAIR compliance, governance integration, and cost

We recognize that some approaches may emphasize speed by applying pre-set perspectives or off-the-shelf solutions. While this can accelerate initial delivery, it can also limit flexibility, increase long-term costs, and overlook the full set of tradeoffs the Hub must weigh. Our approach is intentionally designed to balance speed with rigor – creating space to make the right strategic choices upfront, so that subsequent delivery is faster, better aligned, and more sustainable.

BCG will serve as a **trusted advisor** during this stage – convening stakeholders, pressure-testing options, and codifying a clear roadmap for the path forward. This Phase 0 can be credited towards subsequent phases if Massachusetts proceeds with BCG as a delivery partner.

While there are many design questions for the DCC, Phase 0 will prioritize the **five most substantial strategic guardrails** – the choices that will have the greatest downstream impact on Version 1 scope, resourcing, cost, and sustainability. These are the foundational decisions that cannot be deferred without risking rework or higher costs later. **Exhibit 11** outlines the core strategic questions to be resolved, and **Exhibit 12** highlights how each choice will tangibly shape staffing, budget, and delivery in subsequent phases. Together, these exhibits show how Phase 0 will convert uncertainty into a de-risked, actionable roadmap for Version 1.

Exhibit 116: Strategic questions to be resolved in Phase 0

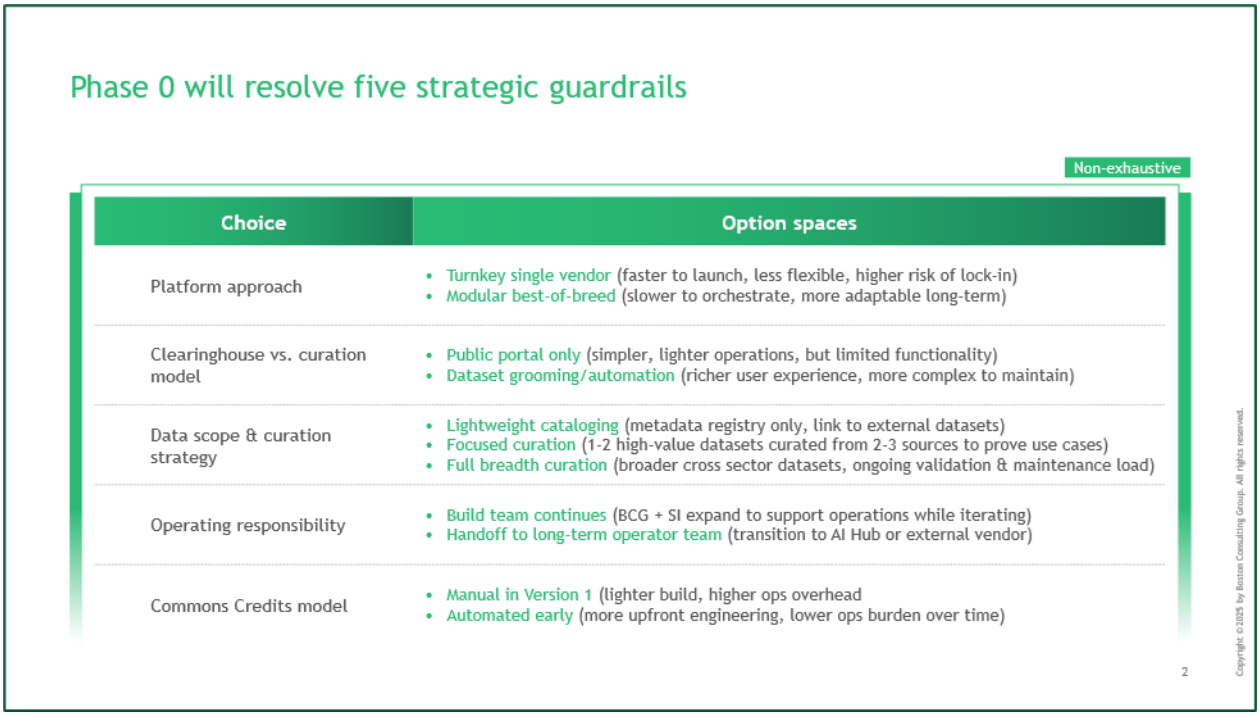
Phase 0 will resolve five strategic guardrails
Non-exhaustive
Choice
Option spaces
Platform approach
Turnkey single vendor (faster to launch, less flexible, higher risk of lock-in)
Modular best-of-breed (slower to orchestrate, more adaptable long-term)
Clearinghouse vs. curation model
Public portal only (simpler, lighter operations, but limited functionality)
Dataset grooming/automation (richer user experience, more complex to maintain)
Data scope & curation strategy
Lightweight cataloging (metadata registry only, link to external datasets)
Focused curation (1-2 high-value datasets curated from 2-3 sources to prove use cases)
Full breadth curation (broader cross sector datasets, ongoing validation & maintenance load)
Operating responsibility
Build team continues (BCG + SI expand to support operations while iterating)
Handoff to long-term operator team (transition to AI Hub or external vendor)
Commons Credits model
Manual in Version 1 (lighter build, higher ops overhead
Automated early (more upfront engineering, lower ops burden over time)
2
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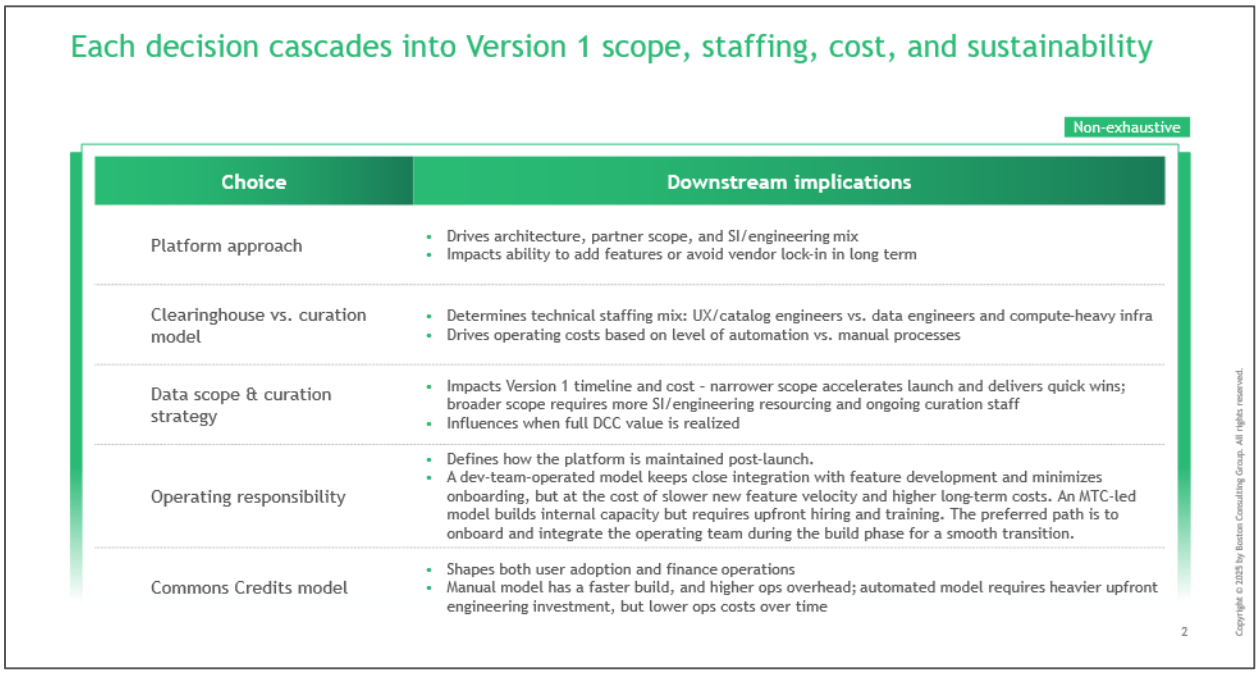
Exhibit 172: Why these decisions are so consequential for the DCC & the Hub


Each decision cascades into Version 1 scope, staffing, cost, and sustainability
Non-exhaustive
Choice
Downstream implications
Platform approach
Drives architecture, partner scope, and SI/engineering mix
Impacts ability to add features or avoid vendor lock-in in long term
Clearinghouse vs. curation model
Determines technical staffing mix: UX/catalog engineers vs. data engineers and compute-heavy infra
Drives operating costs based on level of automation vs. manual processes
Data scope & curation strategy
Impacts Version 1 timeline and cost - narrower scope accelerates launch and delivers quick wins; broader scope requires more SI/engineering resourcing and ongoing curation staff
Influences when full DCC value is realized
Operating responsibility
Defines how the platform is maintained post-launch.
A dev-team-operated model keeps close integration with feature development and minimizes onboarding, but at the cost of slower new feature velocity and higher long-term costs. An MTC-led model builds internal capacity but requires upfront hiring and training. The preferred path is to onboard and integrate the operating team during the build phase for a smooth transition.
Commons Credits model
Shapes both user adoption and finance operations
Manual model has a faster build, and higher ops overhead; automated model requires heavier upfront engineering investment, but lower ops costs over time
2
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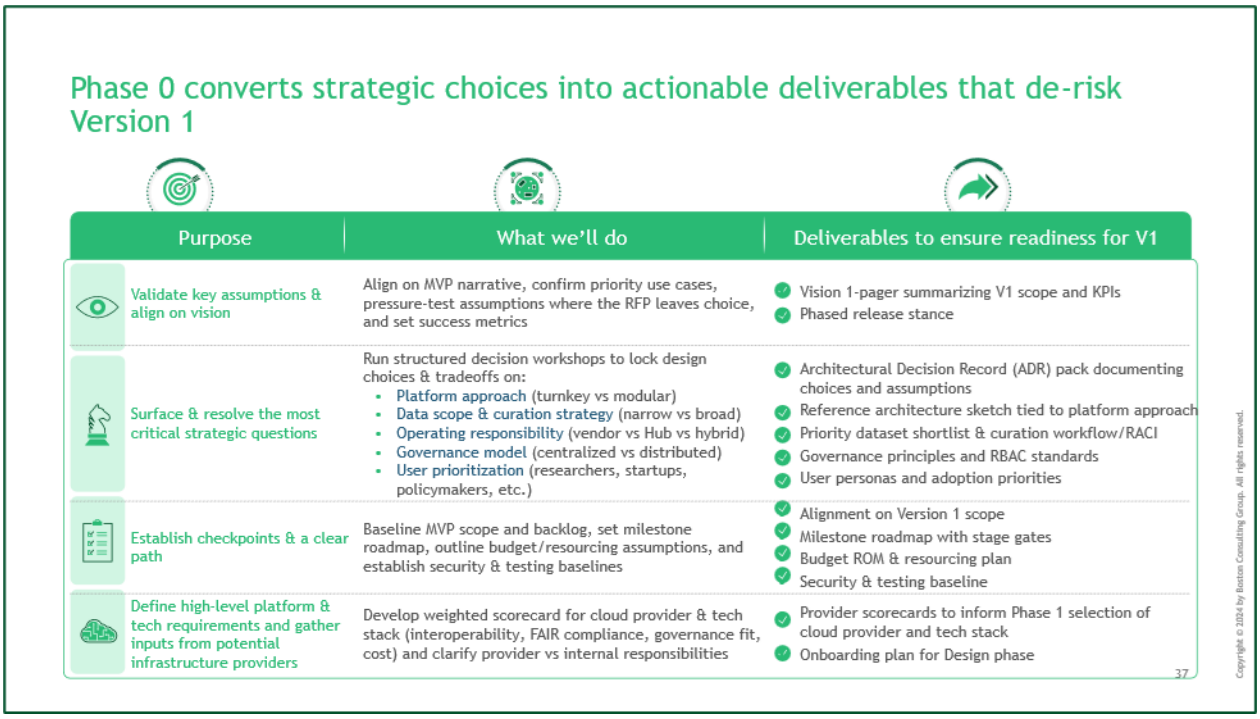
4.1.1 Phase 0 Deliverables

Phase 0 is a four-week, time-boxed sprint designed to **accelerate** Version 1 delivery. It can be conducted immediately, in parallel with contracting activities, so that by early December the Commonwealth enters the 6-9-month Version 1 build with clarity, alignment, and momentum.

At the conclusion of Phase 0 and as outlined in **Exhibit 13**, Massachusetts will have:

- **A codified set of design decisions** across platform, governance, credits, and scope
- **A clear MVP definition** for Version 1, with deferred items sequenced for later phases
- **A resourcing plan** that specifies the mix of SI, engineering, UX, governance, and operations staff required based on chosen tradeoffs
- **A refined cost profile**, highlighting near-term build investment vs. long-term operating efficiency
- **A detailed roadmap into Version 1 delivery**, ensuring clarity, alignment, and reduced risk
- **Defined high-level platform and technology requirements and documented inputs from potential infrastructure providers** to inform future selection

Exhibit 138: Phase 0 deliverables


Phase 0 converts strategic choices into actionable deliverables that de-risk Version 1
Purpose
What we'll do
Deliverables to ensure readiness for V1
Validate key assumptions & align on vision
Align on MVP narrative, confirm priority use cases, pressure-test assumptions where the RFP leaves choice, and set success metrics
Vision 1-pager summarizing V1 scope and KPIs
Phased release stance
Surface & resolve the most critical strategic questions
Run structured decision workshops to lock design choices & tradeoffs on:
Platform approach (turnkey vs modular)
Data scope & curation strategy (narrow vs broad)
Operating responsibility (vendor vs Hub vs hybrid)
Governance model (centralized vs distributed)
User prioritization (researchers, startups, policymakers, etc.)
Architectural Decision Record (ADR) pack documenting choices and assumptions
Reference architecture sketch tied to platform approach
Priority dataset shortlist & curation workflow/RACI
Governance principles and RBAC standards
User personas and adoption priorities
Establish checkpoints & a clear path
Baseline MVP scope and backlog, set milestone roadmap, outline budget/resourcing assumptions, and establish security & testing baselines
Alignment on Version 1 scope
Milestone roadmap with stage gates
Budget ROM & resourcing plan
Security & testing baseline
Define high-level platform & tech requirements and gather inputs from potential infrastructure providers
Develop weighted scorecard for cloud provider & tech stack (interoperability, FAIR compliance, governance fit, cost) and clarify provider vs internal responsibilities
Provider scorecards to inform Phase 1 selection of cloud provider and tech stack
Onboarding plan for Design phase
37
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4.2 Overview of delivery approach for Version 1

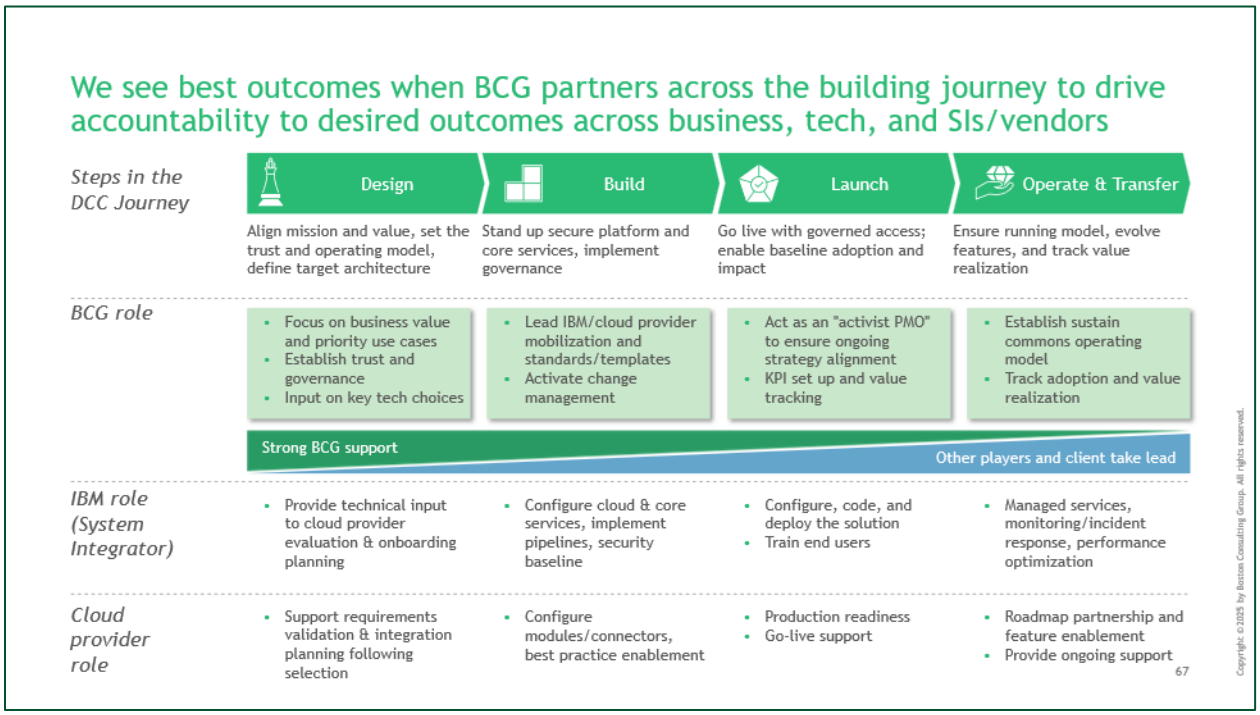
Delivering the DCC requires a balance of strategy, technical depth, and operational discipline. To achieve this, we propose a three-party delivery model:

- BCG will serve as the primary partner, responsible for overall program management, governance design, fairness frameworks, and stakeholder engagement. We will lead with an Activist PMO approach – staying deeply engaged, holding delivery partners accountable, and ensuring the Commons delivers measurable outcomes rather than just outputs.
- IBM, our Systems Integrator (SI), will lead the technical build, including standing up ingestion pipelines, metadata catalogs, APIs, and integration with the Hub's hybrid HPC/cloud environment.
- The cloud infrastructure provider will provision the underlying infrastructure, networking, monitoring, managed services, and infrastructure-level security on which the DCC tools and applications will be deployed. This ensures the platform is built on a modern, automated, modular, scalable, and secure foundation that is maintainable and extendable into the future. While the specific vendor has not yet been selected, we maintain strong relationships with all major cloud vendors and are fully platform- and technology-agnostic. During Phase 0, we will define the technical and interoperability requirements and gather comparative inputs from potential infrastructure providers to inform a transparent and well-founded selection process in the subsequent phase.

The showcased structure in Exhibit 14 allows the Hub to capture the best of all worlds: BCG's strategic insights and Activist PMO discipline, IBM's implementation capacity and build-to-run managed services, and the cloud provider's proven technology stack. It also ensures that

responsibility for scope, governance, and delivery discipline remains with BCG – giving the Hub confidence that the program will remain aligned to its mission and values.

Exhibit 149: Joint delivery between BCG, IBM, and Cloud Provider


We see best outcomes when BCG partners across the building journey to drive accountability to desired outcomes across business, tech, and SIs/vendors
Steps in the DCC Journey
Design
Build
Launch
Operate & Transfer
Align mission and value, set the trust and operating model, define target architecture
Stand up secure platform and core services, implement governance
Go live with governed access; enable baseline adoption and impact
Ensure running model, evolve features, and track value realization
BCG role
Focus on business value and priority use cases
Establish trust and governance
Input on key tech choices
Lead IBM/cloud provider mobilization and standards/templates
Activate change management
Act as an "activist PMO" to ensure ongoing strategy alignment
KPI set up and value tracking
Establish sustain commons operating model
Track adoption and value realization
Strong BCG support
Other players and client take lead
IBM role (System Integrator)
Provide technical input to cloud provider evaluation & onboarding planning
Configure cloud & core services, implement pipelines, security baseline
Configure, code, and deploy the solution
Train end users
Managed services, monitoring/incident response, performance optimization
Cloud provider role
Support requirements validation & integration planning following selection
Configure modules/connectors, best practice enablement
Production readiness
Go-live support
Roadmap partnership and feature enablement
Provide ongoing support
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4.2.1 Why BCG must anchor delivery

States that rely solely on Systems Integrators (SIs), infrastructure providers, or technology/tooling vendors often face recurring challenges:

- Scope is driven by pace rather than alignment to outcomes, leading to costly change orders and missed value.
- Strategies lack depth and buy-in, resulting in decisions being revisited mid-stream.
- Incumbent providers narrowing competition, driving higher costs and limiting innovation.
- Tech decisions may be biased toward vendor portfolios, not the state's best interest.
- Vendor lock-in and rigid cost structures, such as fixed annual compute commitments, which create inefficiencies and waste public dollars.
- Idle periods between strategy and execution, increasing costs and slowing momentum.

By contrast, BCG ensures:

- Alignment to strategy and value, not just speed to build – driving up to *2x greater benefits at 1/3 lower cost.*
- Depth of decision-making, fully vetting key governance, infrastructure, and tech choices against a strong value case.

- **Competitive scoping**, enabling precise partner RFPs without bias, saving clients *$5–10M on vendor estimates*.
- **Efficient use of public funds**, by helping the Hub avoid lock-in and architect elastic, pay-as-you-go compute models so the Commonwealth only pays for what it needs.
- **Platform and technology agnosticism**, with our only incentive to recommend the best-fit solution for Massachusetts.
- **Flexible resourcing**, deploying small, high-impact teams that scale with demand and bridge gaps that vendors cannot.

In this model, BCG remains accountable for scope, governance, and delivery discipline – ensuring that the program remains aligned to the AI Hub's mission and values, while leveraging the strengths of SIs, infrastructure providers, and technology/tooling vendors for implementation.

4.3 Roadmap for the DCC

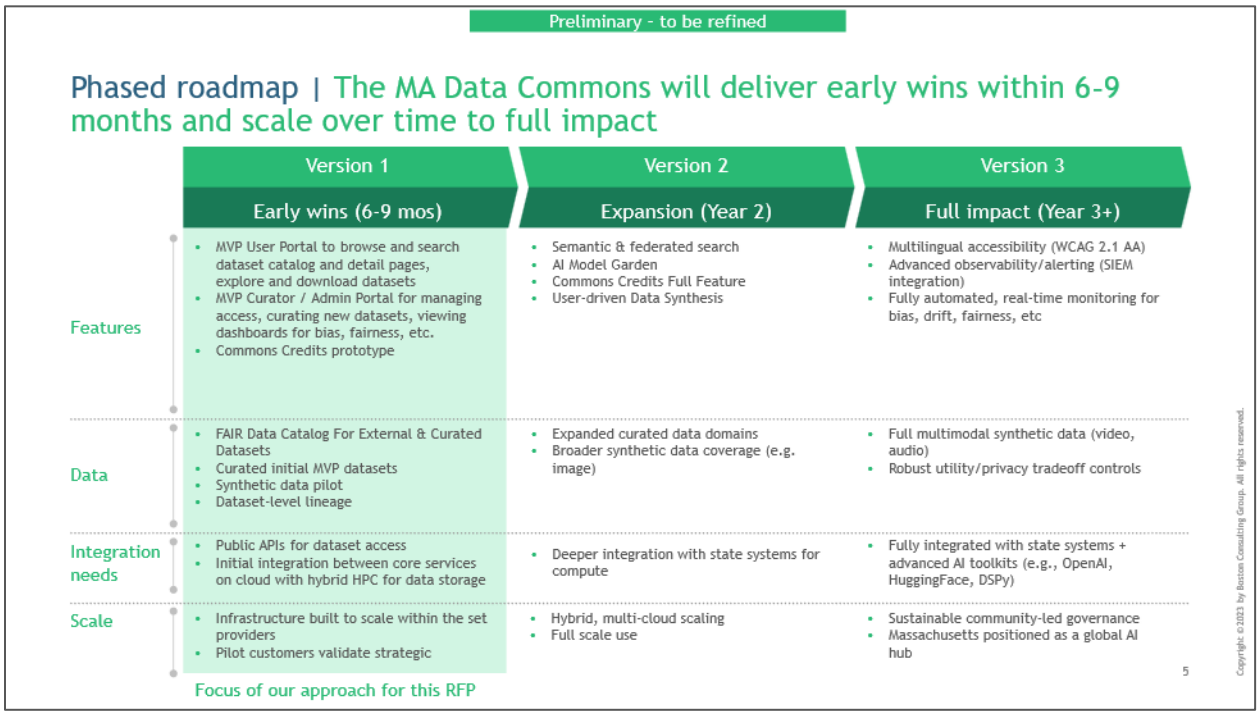
Our roadmap begins with Phase 0 (four weeks), a shaping and alignment stage designed to validate assumptions and establish critical strategic guardrails. This includes defining high-level platform and cloud infrastructure requirements and gathering inputs from potential providers for the Commons – work that will inform a well-grounded selection in the subsequent Design phase. The selected provider will then be onboarded during Design and play a central role in building platform capabilities.

With Phase 0 complete, the program will move into a phased build-out. This RFP is scoped specifically for Version 1 – a six- to nine-month delivery that demonstrates early impact. At the same time, our roadmap anticipates subsequent phases, ensuring that today's build becomes tomorrow's platform for innovation, sustainability, and economic growth.

- **Version 1 (6-9 months):** Deliver a functional platform including a FAIR metadata catalog, dataset-level lineage, ingestion pipelines, security guardrails (RBAC, MFA, logging, encryption), initial governance processes, synthetic data pilots in healthcare/robotics/education, Commons Credits prototype, and onboarding of early adopters. The cloud infrastructure provider selected in Phase 0 will configure and deploy the metadata catalog, FAIR search, lineage, and synthetic data tooling, working alongside the SI and under BCG's Activist PMO oversight.
- **Version 2 (12-24 months):** Expand to additional sectors such as finance, climatetech, and manufacturing; federated dataset discovery; enhanced fairness dashboards; scaled Commons Credits; and expanded user adoption.
- **Version 3 (24+ months):** Mature into a community-led, self-sustaining Commons with column-level lineage, multimodal synthetic data (video/audio), real-time fairness monitoring, multilingual access, and a fully evolved governance and operating model.

This roadmap in **Exhibit 15** ensures the Hub can demonstrate impact quickly while laying the foundation for long-term sustainability. Version 1 will not be a proof of concept – it will be a **real, functional platform** that provides tangible value to stakeholders as described in **Exhibit 16**.

Exhibit 15 10: Phased roadmap for the DCC


Preliminary - to be refined
Phased roadmap | The MA Data Commons will deliver early wins within 6-9 months and scale over time to full impact
Version 1
Early wins (6-9 mos)
Version 2
Expansion (Year 2)
Version 3
Full impact (Year 3+)
Features
MVP User Portal to browse and search dataset catalog and detail pages, explore and download datasets
MVP Curator / Admin Portal for managing access, curating new datasets, viewing dashboards for bias, fairness, etc.
Commons Credits prototype
Semantic & federated search
AI Model Garden
Commons Credits Full Feature
User-driven Data Synthesis
Multilingual accessibility (WCAG 2.1 AA)
Advanced observability/alerting (SIEM integration)
Fully automated, real-time monitoring for bias, drift, fairness, etc
Data
FAIR Data Catalog For External & Curated Datasets
Curated initial MVP datasets
Synthetic data pilot
Dataset-level lineage
Expanded curated data domains
Broader synthetic data coverage (e.g. image)
Full multimodal synthetic data (video, audio)
Robust utility/privacy tradeoff controls
Integration needs
Public APIs for dataset access
Initial integration between core services on cloud with hybrid HPC for data storage
Deeper integration with state systems for compute
Fully integrated with state systems + advanced AI toolkits (e.g., OpenAI, HuggingFace, DSPy)
Scale
Infrastructure built to scale within the set providers
Pilot customers validate strategic
Hybrid, multi-cloud scaling
Full scale use
Sustainable community-led governance
Massachusetts positioned as a global AI hub
Focus of our approach for this RFP
5
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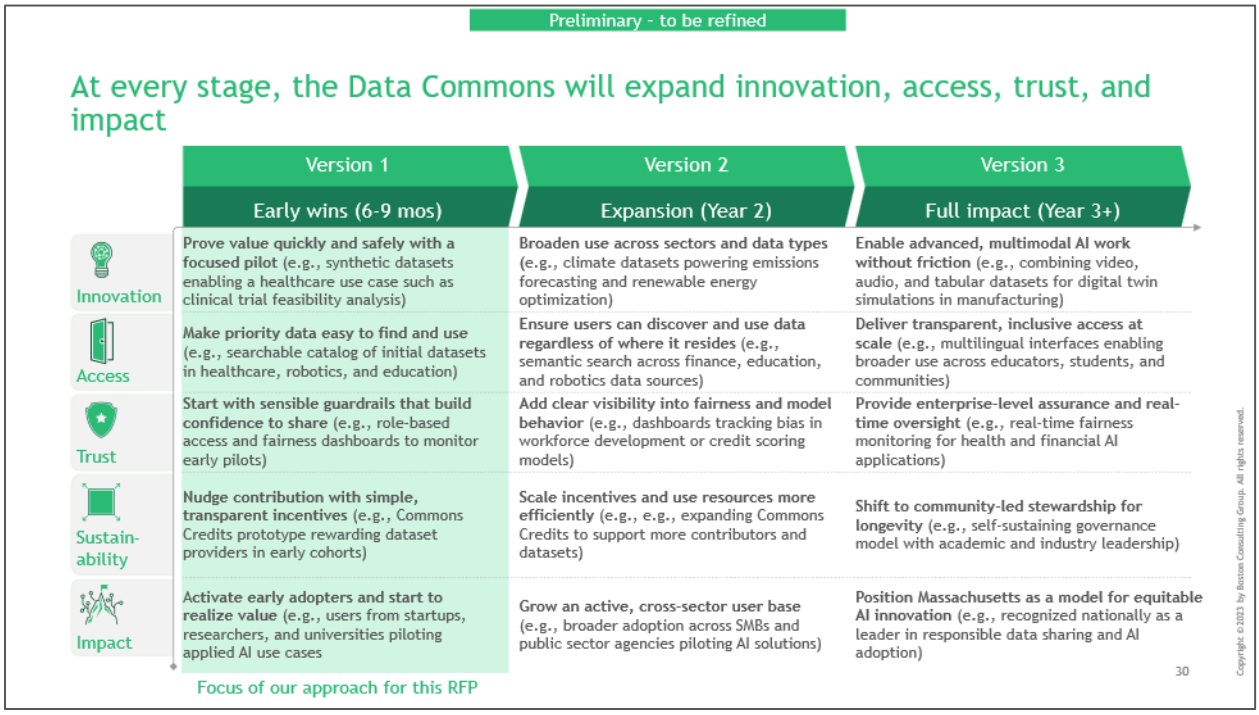
Illustrative example based on current assumptions, to be refined following Phase 0 discussions and decisions

Exhibit 1611: Each phase will deliver value for the DCC


Preliminary - to be refined
At every stage, the Data Commons will expand innovation, access, trust, and impact
Version 1
Early wins (6-9 mos)
Version 2
Expansion (Year 2)
Version 3
Full impact (Year 3+)
Innovation
Prove value quickly and safely with a focused pilot (e.g., synthetic datasets enabling a healthcare use case such as clinical trial feasibility analysis)
Broaden use across sectors and data types (e.g., climate datasets powering emissions forecasting and renewable energy optimization)
Enable advanced, multimodal AI work without friction (e.g., combining video, audio, and tabular datasets for digital twin simulations in manufacturing)
Access
Make priority data easy to find and use (e.g., searchable catalog of initial datasets in healthcare, robotics, and education)
Ensure users can discover and use data regardless of where it resides (e.g., semantic search across finance, education, and robotics data sources)
Deliver transparent, inclusive access at scale (e.g., multilingual interfaces enabling broader use across educators, students, and communities)
Trust
Start with sensible guardrails that build confidence to share (e.g., role-based access and fairness dashboards to monitor early pilots)
Add clear visibility into fairness and model behavior (e.g., dashboards tracking bias in workforce development or credit scoring models)
Provide enterprise-level assurance and real-time oversight (e.g., real-time fairness monitoring for health and financial AI applications)
Sustain-ability
Nudge contribution with simple, transparent incentives (e.g., Commons Credits prototype rewarding dataset providers in early cohorts)
Scale incentives and use resources more efficiently (e.g., e.g., expanding Commons Credits to support more contributors and datasets)
Shift to community-led stewardship for longevity (e.g., self-sustaining governance model with academic and industry leadership)
Impact
Activate early adopters and start to realize value (e.g., users from startups, researchers, and universities piloting applied AI use cases
Grow an active, cross-sector user base (e.g., broader adoption across SMBs and public sector agencies piloting AI solutions)
Position Massachusetts as a model for equitable AI innovation (e.g., recognized nationally as a leader in responsible data sharing and AI adoption)
Focus of our approach for this RFP
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Illustrative example based on current assumptions, to be refined following Phase 0 discussions and decisions

4.4 Version 1 build and impact

Our focus for this RFP is delivering a **real, functional Version 1 of the Data Commons** in the next 6–9 months, following the design, build and launch path shown in **Exhibit 17**. Version 1 will not be a proof of concept – it will be a usable platform that demonstrates tangible value for Massachusetts while laying the foundation for scale, aligned to the conceptual target architecture in **Exhibit 18**.

What will be built

Version 1 will include the following core capabilities:

- **FAIR metadata catalog** with dataset-level lineage for initial priority datasets, configured by the cloud infrastructure provider selected after Phase 0.
- **Ingestion pipelines** for structured, semi-structured, and unstructured data, with validation and provenance tracking.
- **Governance and security guardrails,** including role-based access, MFA, audit logging, and encryption.
- **Fairness dashboards** to surface representation and performance disparities, flag at risk datasets, and make tradeoffs across subpopulations transparent. For Version 1, a specific dataset and model will be selected, and an appropriate tool will be used to demonstrate bias detection with mitigation and documentation for that context.
- **Synthetic data tooling** to generate and validate tabular, text, and image datasets, with pilots in healthcare, robotics, and education.
- **Commons Credits prototype** with a credit-based model where users earn or purchase credits to unlock full datasets and ensure equitable access.
- **User onboarding and training** for the first cohort of early adopters.

Exhibit 17: Version 1 technical build with tangible outcomes

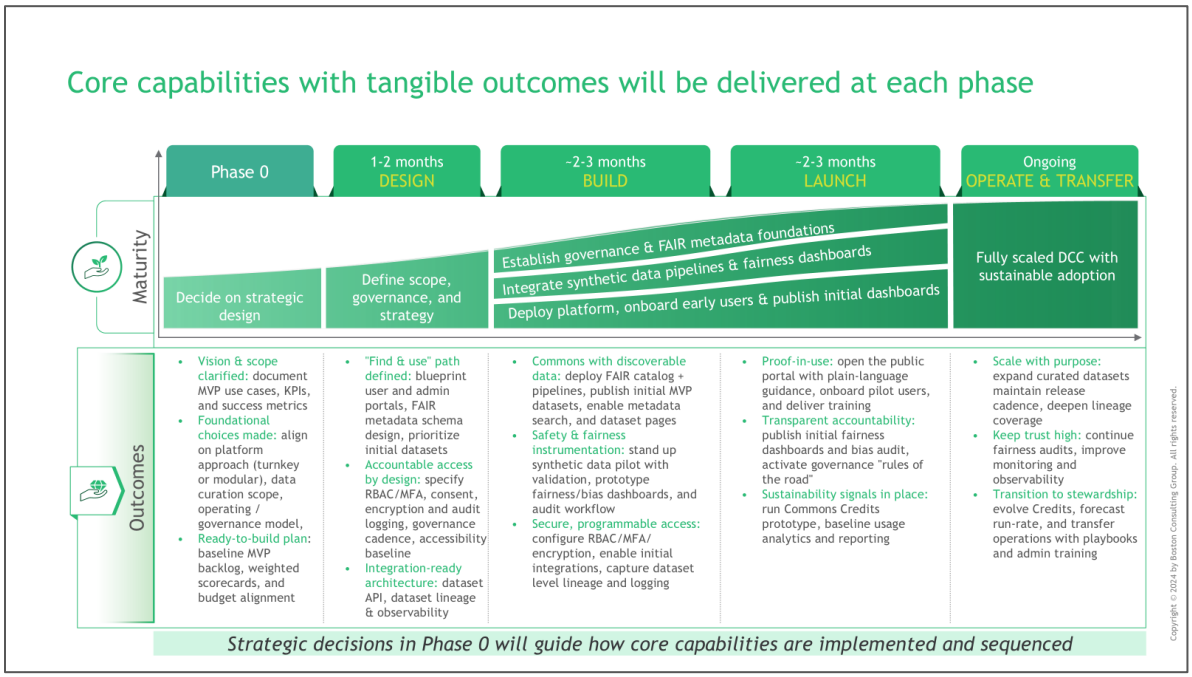
Core capabilities with tangible outcomes will be delivered at each phase
Phase 0
1-2 months DESIGN
~2-3 months BUILD
~2-3 months LAUNCH
Ongoing OPERATE & TRANSFER
Maturity
Decide on strategic design
Define scope, governance, and strategy
Establish governance & FAIR metadata foundations
Integrate synthetic data pipelines & fairness dashboards
Deploy platform, onboard early users & publish initial dashboards
Fully scaled DCC with sustainable adoption
Outcomes
Vision & scope clarified: document MVP use cases, KPIs, and success metrics
Foundational choices made: align on platform approach (turnkey or modular), data curation scope, operating / governance model,
Ready-to-build plan: baseline MVP backlog, weighted scorecards, and budget alignment
"Find & use" path defined: blueprint user and admin portals, FAIR metadata schema design, prioritize initial datasets
Accountable access by design: specify RBAC/MFA, consent, encryption and audit logging, governance cadence, accessibility baseline
Integration-ready architecture: dataset API, dataset lineage & observability
Commons with discoverable data: deploy FAIR catalog + pipelines, publish initial MVP datasets, enable metadata search, and dataset pages
Safety & fairness instrumentation: stand up synthetic data pilot with validation, prototype fairness/bias dashboards, and audit workflow
Secure, programmable access: configure RBAC/MFA/ encryption, enable initial integrations, capture dataset level lineage and logging
Proof-in-use: open the public portal with plain-language guidance, onboard pilot users, and deliver training
Transparent accountability: publish initial fairness dashboards and bias audit, activate governance "rules of the road"
Sustainability signals in place: run Commons Credits prototype, baseline usage analytics and reporting
Scale with purpose: expand curated datasets maintain release cadence, deepen lineage coverage
Keep trust high: continue fairness audits, improve monitoring and observability
Transition to stewardship: evolve Credits, forecast run-rate, and transfer operations with playbooks and admin training
Strategic decisions in Phase 0 will guide how core capabilities are implemented and sequenced
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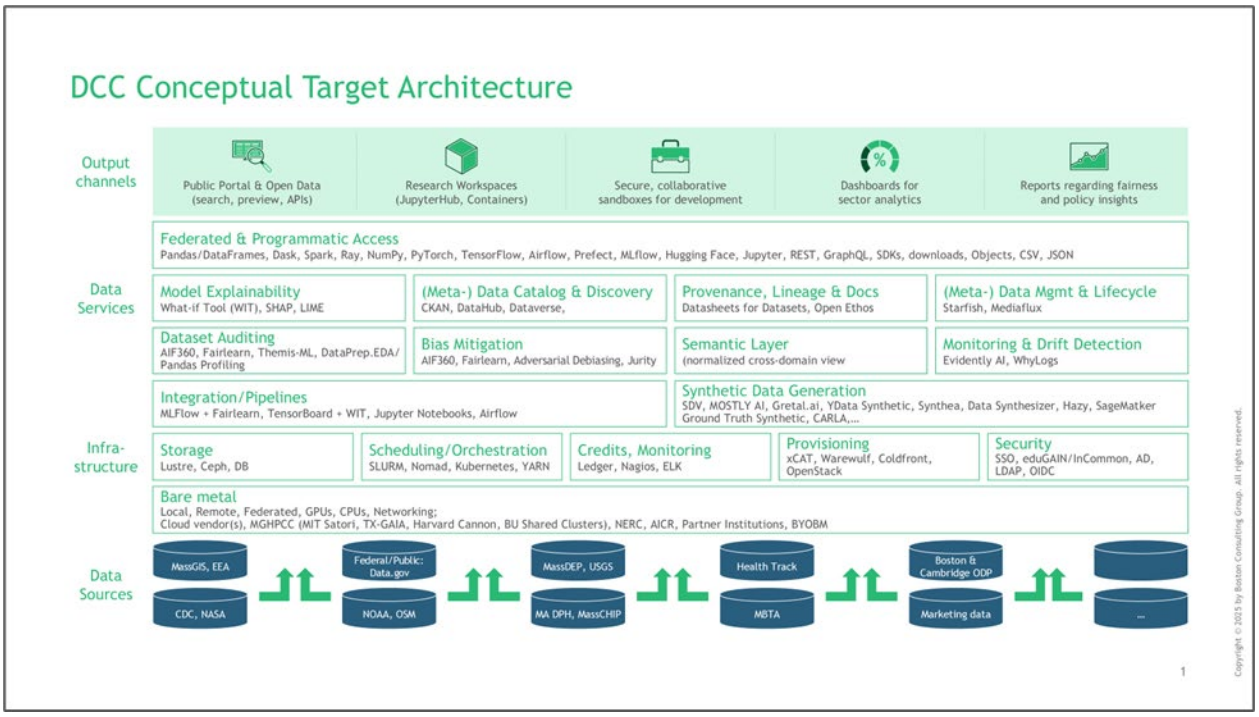
Exhibit 1812: Version 1 reference architecture



Illustrative example based on current assumptions, to be refined following Phase 0 discussions and decisions

What impact it will deliver

By delivering these capabilities, Version 1 will create immediate value across Massachusetts:

- **Healthcare & life sciences** researchers will be able to experiment with synthetic clinical data safely and assess trial feasibility.
- **Robotics & advanced manufacturing** innovators will use curated datasets and simulators to test control models and digital twins.
- **Educators and workforce programs** will gain sandboxed environments to teach AI literacy and build skills.
- **Startups and SMBs** will gain equitable access to curated and synthetic datasets, incentivized by Commons Credits.
- **The Commonwealth overall** will establish trust with governance guardrails, fairness dashboards, and transparent access policies.

Together, Phase 0 decisions and Version 1 rollout will deliver both the **technical foundation and the early impact** needed to build credibility, momentum, and economic opportunity.

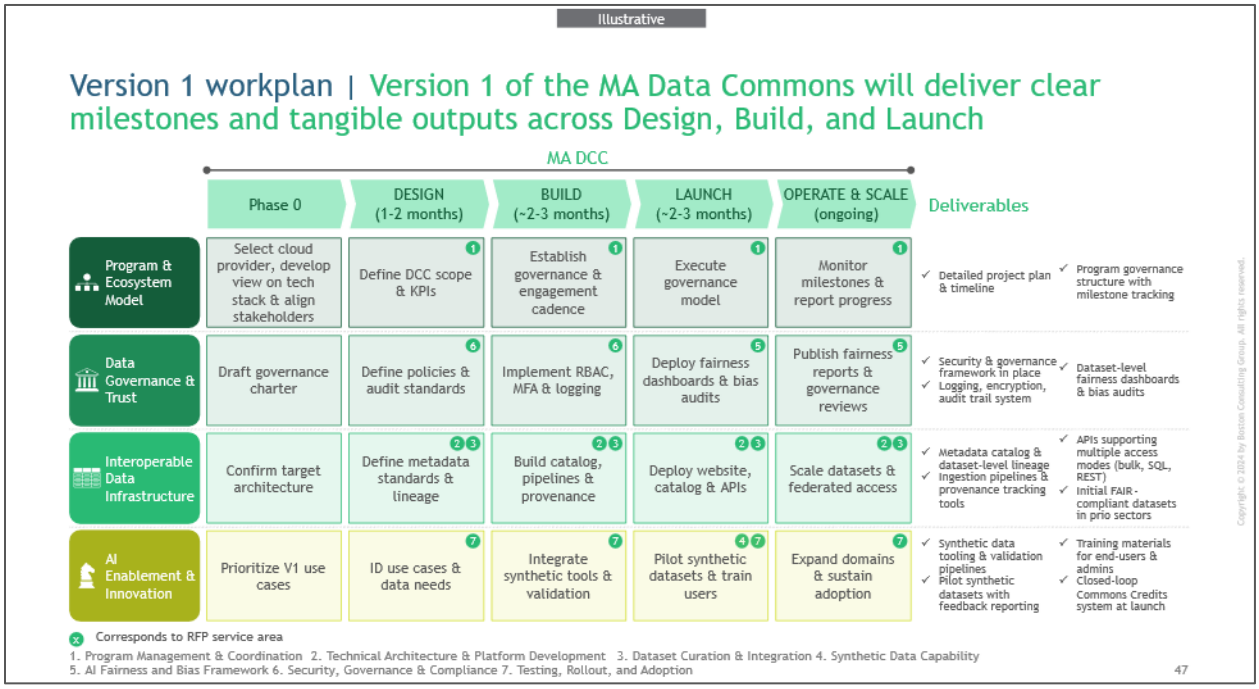
4.5 Version 1 detailed workplan and deliverables

To ensure Version 1 is delivered within six to nine months, we have structured the workplan into five stages with specific deliverables as shown in **Exhibit 19**. Each stage culminates in tangible outputs, supported by BCG's Activist PMO discipline to keep scope on track and stakeholders aligned.

- **Phase 0 (Month 0-1):** Validate RFP assumptions, align stakeholders, establish strategic design guardrails, define high-level platform and cloud infrastructure requirements, gather inputs from potential providers, develop preliminary view on tech stack, draft governance charter, codify roadmap, and prioritize V1 use cases.
- **Design (Months 1-2):** Finalize requirements and select the cloud infrastructure provider, define scope, KPIs, and governance structure; finalize Commons Credits prototype rules; and align stakeholders across subcommittees.
- **Build (Months 2-4):** Stand up ingestion pipelines, metadata catalog with dataset-level lineage, synthetic data tools, and fairness dashboards; implement security guardrails (RBAC, MFA, encryption, logging).
- **Launch (Months 5-6):** Deploy the platform with initial datasets in healthcare, robotics, and education; enable Commons Credits; and roll out training and documentation for the first cohort of early adopters.
- **Operate & Transfer (Months 6-9):** Support onboarding of early users, gather feedback, refine governance and dashboards, and prepare for expansion in Version 2.

This plan ensures Version 1 is usable, trusted, and impactful from day one, while positioning MA for rapid scaling in subsequent phases.

Exhibit 19: Workplan and deliverables for Version 1


Illustrative
Version 1 workplan | Version 1 of the MA Data Commons will deliver clear milestones and tangible outputs across Design, Build, and Launch
MA DCC
Phase 0
DESIGN (1-2 months)
BUILD (~2-3 months)
LAUNCH (~2-3 months)
OPERATE & SCALE (ongoing)
Deliverables
Program & Ecosystem Model
Select cloud provider, develop view on tech stack & align stakeholders
Define DCC scope & KPIs
Establish governance & engagement cadence
Execute governance model
Monitor milestones & report progress
Detailed project plan & timeline
Program governance structure with milestone tracking
Data Governance & Trust
Draft governance charter
Define policies & audit standards
Implement RBAC, MFA & logging
Deploy fairness dashboards & bias audits
Publish fairness reports & governance reviews
Security & governance framework in place
Logging, encryption, audit trail system
Dataset-level fairness dashboards & bias audits
Interoperable Data Infrastructure
Confirm target architecture
Define metadata standards & lineage
Build catalog, pipelines & provenance
Deploy website, catalog & APIs
Scale datasets & federated access
Metadata catalog & dataset-level lineage
Ingestion pipelines & provenance tracking tools
APIs supporting multiple access modes (bulk, SQL, REST)
Initial FAIR-compliant datasets in prio sectors
AI Enablement & Innovation
Prioritize V1 use cases
ID use cases & data needs
Integrate synthetic tools & validation
Pilot synthetic datasets & train users
Expand domains & sustain adoption
Synthetic data tooling & validation pipelines
Pilot synthetic datasets with feedback reporting
Training materials for end-users & admins
Closed-loop Commons Credits system at launch
Corresponds to RFP service area
1. Program Management & Coordination 2. Technical Architecture & Platform Development 3. Dataset Curation & Integration 4. Synthetic Data Capability
5. AI Fairness and Bias Framework 6. Security, Governance & Compliance 7. Testing, Rollout, and Adoption
47

Illustrative example based on current assumptions, to be refined following Phase 0 discussions and decisions

5 Staffing plan & qualifications

5.1 Resourcing model

As described in Section 3, we propose a four-week Phase 0 as a prerequisite step before Version 1 delivery. Staffing in Phase 0 will be lean and BCG-led, focused on shaping and alignment, with targeted involvement from IBM as SI to validate technical assumptions and inform downstream resourcing. From Design onward, delivery transitions to a three-party model: BCG as the primary partner, IBM providing full SI and build-to-run services, and a cloud infrastructure provider supplying the underlying platform and tooling. In this section, we describe how this model translates into staffing and resourcing – the roles required at each stage, how they will be phased across the 6-9 month Version 1 build, and the implications for cost, continuity, and long-term sustainability.

Our staffing model is designed to be:

- **Right-sized and flexible**, scaling up during build and tapering during Operate/Scale.
- **Balanced**, with BCG providing strategy, governance, and Activist PMO discipline while IBM and cloud infrastructure provider (e.g., AWS, Azure, GCP) provide technical depth and delivery scale.
- **Transparent**, with clear trade-offs between different resourcing models to balance continuity with cost efficiency.

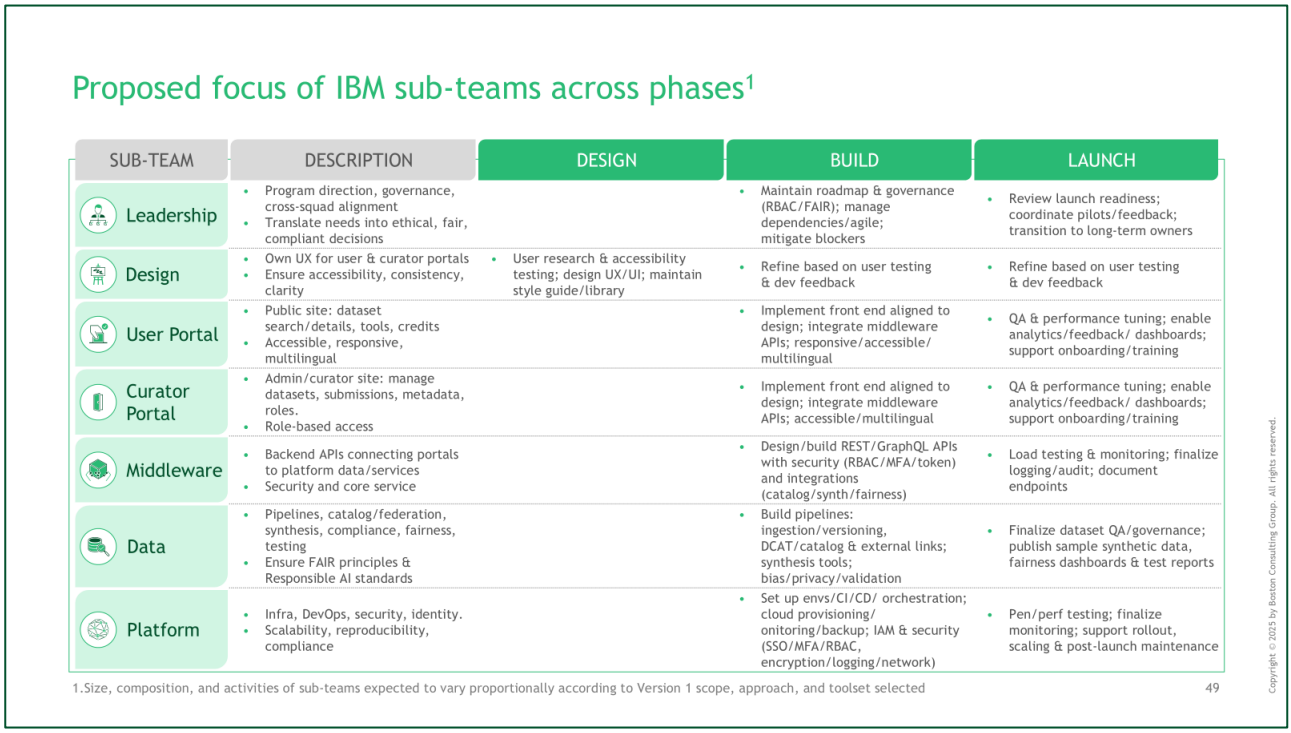
Staffing approach

Our staffing model is designed to align directly with the phased workplan for Version 1 (see **Exhibit 19**: *Workplan and deliverables for Version 1*). We scale resources up and down based on program needs, while maintaining continuity through a small BCG core team that oversees strategy, governance, and Activist PMO discipline.

- **Phase 0 (Month 0-1)**: ~3 BCG FTEs, including a project lead, governance/operating model expert, and data architect. The focus is on stakeholder engagement, establishing strategic guardrails, defining high-level platform and cloud infrastructure requirements, gathering inputs from potential providers, developing a preliminary view on a technology stack, and codifying the roadmap. IBM and the cloud/tech stack providers are not yet staffed.
- **Design (Months 1-2):** Core team expands (5 BCG including a project lead, a Platinion architecture director, data platform design expert, and data product expert, and ~6 IBM FTEs including an enterprise architect, design lead, and senior designers, plus cloud infrastructure provider onboarding). During this phase, the cloud infrastructure provider is selected and onboarded, with BCG leading governance design, KPIs, and onboarding workshops; the cloud infrastructure provider aligning tooling and environment setup; and IBM aligning architecture and integration. **Exhibit 20** details IBM proposed sub-team focus areas across phases.
- **Build (Months 2-5):** Resourcing ramps up (5 BCG, and 4 IBM pods), with IBM and the cloud infrastructure provider leading technical development (pipelines, catalog, APIs) and BCG providing governance and Responsible AI oversight.
- **Launch (Months 6-9):** A balanced team (5 BCG and 4 IBM pods), with BCG leading adoption/change management, IBM finalizing build, and the cloud infrastructure provider configuring platform tooling.
- **Operate & Transfer (Ongoing):** Eventually transition to a steady-state model where hands-on support tapers, with BCG providing light-touch oversight of governance, credits, and dashboards, while IBM and cloud provider manage day-to-day operations and continuous improvements.

BCG applies a **Build-Operate-Transfer (BOT)** model to ensure that capabilities are transferred to the Hub staff throughout the project. By embedding alongside AI Hub stakeholders, we ensure the Commons is "built with you, not just for you" – establishing long-term ownership and reducing reliance on external consultants.

Exhibit 2013: IBM sub-team staffing focus areas across phases



Proposed focus of IBM sub-teams across phases[1]

SUB-TEAM	DESCRIPTION	DESIGN	BUILD	LAUNCH
Leadership	• Program direction, governance, cross-squad alignment • Translate needs into ethical, fair, compliant decisions		• Maintain roadmap & governance (RBAC/FAIR); manage dependencies/agile; mitigate blockers	• Review launch readiness; coordinate pilots/feedback; transition to long-term owners
Design	• Own UX for user & curator portals • Ensure accessibility, consistency, clarity	• User research & accessibility testing; design UX/UI; maintain style guide/library	• Refine based on user testing & dev feedback	• Refine based on user testing & dev feedback
User Portal	• Public site: dataset search/details, tools, credits • Accessible, responsive, multilingual		• Implement front end aligned to design; integrate middleware APIs; responsive/accessible/ multilingual	• QA & performance tuning; enable analytics/feedback/ dashboards; support onboarding/training
Curator Portal	• Admin/curator site: manage datasets, submissions, metadata, roles. • Role-based access		• Implement front end aligned to design; integrate middleware APIs; accessible/multilingual	• QA & performance tuning; enable analytics/feedback/ dashboards; support onboarding/training
Middleware	• Backend APIs connecting portals to platform data/services • Security and core service		• Design/build REST/GraphQL APIs with security (RBAC/MFA/token) and integrations (catalog/synth/fairness)	• Load testing & monitoring; finalize logging/audit; document endpoints
Data	• Pipelines, catalog/federation, synthesis, compliance, fairness, testing • Ensure FAIR principles & Responsible AI standards		• Build pipelines: ingestion/versioning, DCAT/catalog & external links; synthesis tools; bias/privacy/validation	• Finalize dataset QA/governance; publish sample synthetic data, fairness dashboards & test reports
Platform	• Infra, DevOps, security, identity. • Scalability, reproducibility, compliance		• Set up envs/CI/CD/ orchestration; cloud provisioning/ onitoring/backup; IAM & security (SSO/MFA/RBAC, encryption/logging/network)	• Pen/perf testing; finalize monitoring; support rollout, scaling & post-launch maintenance

1.Size, composition, and activities of sub-teams expected to vary proportionally according to Version 1 scope, approach, and toolset selected

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5.2 Budget and cost considerations

We recognize the importance of transparency and cost efficiency for a state-funded program of this scale. Our resourcing model is designed to maximize value by combining small, high-impact BCG teams with the delivery scale of IBM, a cloud infrastructure provider, and modern, secure, and scalable platform tooling.

Key principles of our approach include:

- **Prioritizing value over volume.** BCG provides targeted expertise in program management, governance, and Responsible AI, while IBM and the cloud infrastructure provider as well as tech stack resources deliver the bulk of the technical build.
- **Avoiding scope drift.** BCG's Activist PMO role ensures the program stays tightly aligned to outcomes, reducing the risk of costly rework or change orders.
- **Balancing continuity with efficiency.** This blended model provides cost-effective delivery while maintaining BCG oversight of scope, governance, and accountability.

This staffing model will deliver the full set of Version 1 outcomes within 6-9 months, while ensuring that the Hub retains ownership and sustainability from day one.

5.3 Team qualifications

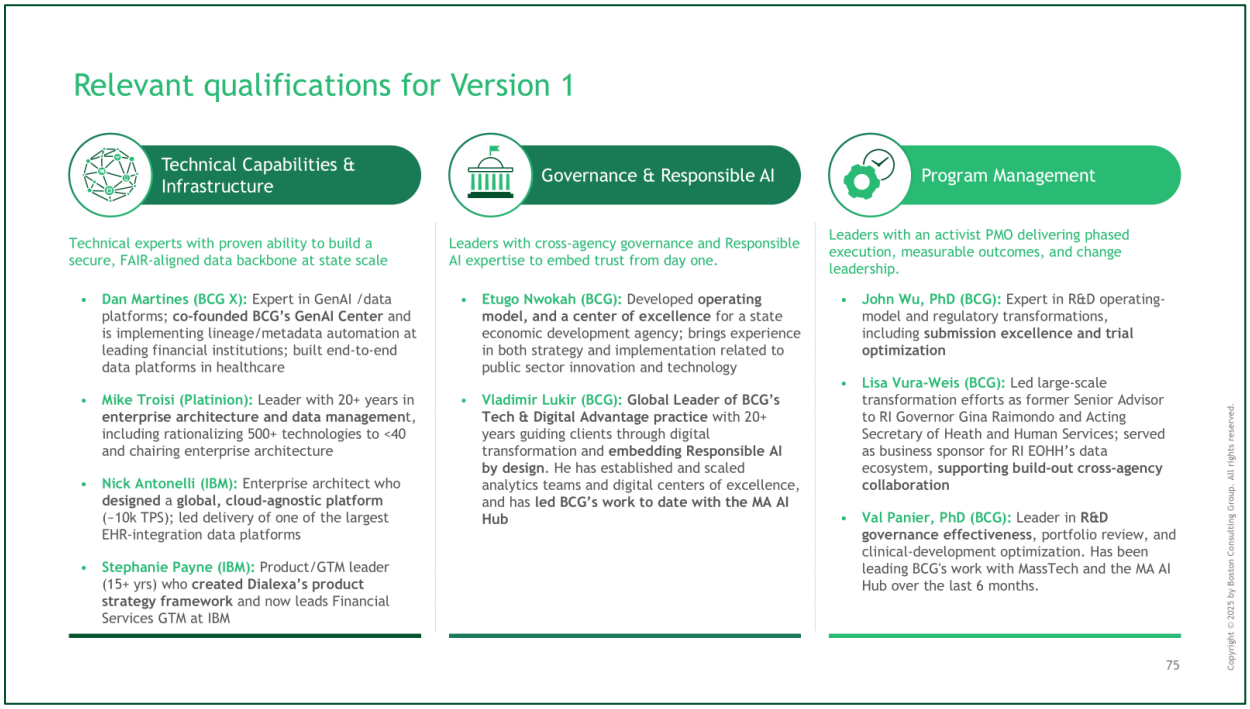
The team we propose brings together BCG's global experience, Massachusetts-specific expertise, and the technical depth of IBM. Together, we combine strategic, technical, and operational capabilities that directly align to the seven RFP service areas.

BCG: Experienced in standing up data commons, platforms, and Responsible AI frameworks; recognized leader in governance, cybersecurity, and fairness. Our team includes practitioners with backgrounds in state government, academia, and industry who understand the complexities of delivering in the public sector.

IBM: IBM has a proven legacy of building enterprise-scale products for all industries worldwide. Recognized as a leader in digital product engineering, IBM has deep expertise in building large-scale data platforms, ingestion pipelines, catalogs, and complex external integrations – all within hybrid multi-cloud environments and in sectors with demanding regulatory and cybersecurity requirements. In addition to platform engineering, IBM is also a leader in AI development, combining product and data engineering with advanced AI capabilities to deliver secure, scalable, and innovative solutions.

Organizational descriptions and resumes of key team members are provided in Section 5. Exhibit 21 presents relevant qualifications for Version 1, although key staff are subject to availability.

Exhibit 21 14: Relevant qualifications for Version 1


Relevant qualifications for Version 1
Technical Capabilities & Infrastructure
Technical experts with proven ability to build a secure, FAIR-aligned data backbone at state scale
Dan Martines (BCG X): Expert in GenAI /data platforms; co-founded BCG's GenAI Center and is implementing lineage/metadata automation at leading financial institutions; built end-to-end data platforms in healthcare
Mike Troisi (Platinion): Leader with 20+ years in enterprise architecture and data management, including rationalizing 500+ technologies to <40 and chairing enterprise architecture
Nick Antonelli (IBM): Enterprise architect who designed a global, cloud-agnostic platform (~10k TPS); led delivery of one of the largest EHR-integration data platforms
Stephanie Payne (IBM): Product/GTM leader (15+ yrs) who created Dialexa's product strategy framework and now leads Financial Services GTM at IBM
Governance & Responsible AI
Leaders with cross-agency governance and Responsible AI expertise to embed trust from day one.
Etugo Nwokah (BCG): Developed operating model, and a center of excellence for a state economic development agency; brings experience in both strategy and implementation related to public sector innovation and technology
Vladimir Lukir (BCG): Global Leader of BCG's Tech & Digital Advantage practice with 20+ years guiding clients through digital transformation and embedding Responsible AI by design. He has established and scaled analytics teams and digital centers of excellence, and has led BCG's work to date with the MA AI Hub
Program Management
Leaders with an activist PMO delivering phased execution, measurable outcomes, and change leadership.
John Wu, PhD (BCG): Expert in R&D operating-model and regulatory transformations, including submission excellence and trial optimization
Lisa Vura-Weis (BCG): Led large-scale transformation efforts as former Senior Advisor to RI Governor Gina Raimondo and Acting Secretary of Heath and Human Services; served as business sponsor for RI EOHH's data ecosystem, supporting build-out cross-agency collaboration
Val Panier, PhD (BCG): Leader in R&D governance effectiveness, portfolio review, and clinical-development optimization. Has been leading BCG's work with MassTech and the MA AI Hub over the last 6 months.
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Leadership & experience

BCG TEAM / ROLES	PROGRAM MGMT & COORDINATION	TECH ARCH. & PLATFORM DEV	DATASET CURATION & INTEG.	SYNTHETIC DATA CAPABILITY	AI FAIRNESS & BIAS FRAMEWORK	SECURITY, GOV., COMPLIANCE	TESTING, ROLLOUT, ADOPTION
SENIOR LEADERSHIP TEAM							
BCG Partner (s)	X						
SI Program Lead (IBM)		X					X
Cloud infrastructure provider Exec Lead (Cloud)		X		X	X		
CORE PROJECT EXECUTION TEAM							
Program manager (BCG)	X						X
Gov. & policy lead (BCG)	X						X X
Data architect (IBM)		X		X			X
Synthetic Data Lead (Cloud/BCG)					X		
Fairness & responsible AI lead (BCG)						X	X
EXPERTS							
Domain SMEs (HC, robotics, educ.) (BCG/external advisors)			X				
Cybersecurity/Compliance specialist (BCG)							X
Metadata & catalog SME (Cloud)		X	X			X	X

5.4 Case studies: BCG's delivery experience

BCG brings proven experience integrating design, governance, and platform build for governments and enterprises worldwide. We are uniquely positioned to help the Hub stand up the DCC because we combine strengths in strategy, technical architecture, and Responsible AI. Through BCG and our Center for Digital Government, we've delivered reference projects spanning the DCC scope. We also work closely with leading system integrators, cloud infrastructure providers, and tech/tooling partners to align roles, accelerate delivery, and ensure secure, scalable operations. The five examples that follow show how this experience translates into practice, from designing operating models to building technical foundations and driving adoption at scale.

- Program design & governance: New Jersey (5.4.1)
- Federated data platform architecture & build: National Grid (5.4.2)
- Commercial scale data commons: Universal Music Group (UMG) (5.4.3).
- Synthetic data generation: Manufacturing (5.4.4)
- Accelerating responsible AI adoption: Michigan (5.4.5)

LISTED RFP REQUIREMENTS	EXAMPLE 1 (5.4.1 - New Jersey)	EXAMPLE 2 (5.4.2 - National Grid)	EXAMPLE 3 (5.4.3 - UMG)	EXAMPLE 4 (5.4.4 – Manufacturing)	EXAMPLE 5 (5.4.5 – Michigan)
Program management & coordination	x	x			x
Technical architecture & build		x	x	x	
Dataset curation & integration		x	x		
Synthetic data capability				x	
AI fairness & bias framework	x				x
Security, governance, and compliance	x	x	x		x
Testing, rollout, and adoption	x	x	x		x

From these engagements, five key insights apply directly to the Hub:

1. **Lead with high-value use cases and show value fast**: Pick 2-3 industry use cases, lock KPIs up front, and set clear MVP milestones to unlock decisions and build momentum
2. **Lead with governance**: Establish a tiered governance model that delivers real-time policy enforcement, role-based access controls, and auditability while empowering domain data owners and stewards and standardizing data sharing and matching to prevent fragmentation
3. **Design for adoption from day one**: Democratize access with intuitive self-service, streamline change management, and roll out role-based training to drive usage and scalable adoption
4. **Leverage synthetic data**: Build and iterate a generation pipeline, deliver a working prototype, and run a time-boxed pilot to validate sim-to-real performance
5. **Practical path to implementing responsible AI:** Set a statewide vision with guiding principles and KPIs, build in decision making frameworks, and define platform selection criteria to give agencies a clear, practical path to implement responsible AI

5.4.1 Example 1: Building capacity within a state government to deploy and develop GenAI services

Context

The State of New Jersey established a GenAI Task Force to explore how generative AI could deliver greater value to government operations and resident services. BCG partnered with the Task Force to structure and operationalize its initiative, focusing on responsible innovation, scalable governance, and cross-agency collaboration in line with the State's broader modernization goals.

Approach

BCG started by developing an inventory of operational pain points across state agencies to identify and prioritize GenAI use cases to improve service delivery, resident outcomes, and internal efficiency.

We benchmarked public and private sector GenAI implementations to inform best practices and vetted potential use cases collaboratively with stakeholders.

Next, we developed a proof-of-concept (POC) for the highest-priority use case, iterating based on real user feedback. This work was supported by a phased implementation roadmap outlining milestones, timelines, and KPIs to measure success, ensuring the initiative was scalable and accountable.

To drive sustainability, we created a comprehensive change management playbook, including detailed plans for communications, testing, user training, and continuous improvement. We advised the State's Chief Technology Officer on a statewide operating model and governance framework for GenAI, blending centralized platform management with agency-specific innovation. We also developed a responsible AI policy report, providing guiding principles and compliance mechanisms to ensure ethical and secure usage of AI across government operations.

Outcome

Through this engagement, BCG helped New Jersey identify 6 high-impact GenAI use cases (out of 40+) with clear potential to improve resident experiences and operational efficiency. We delivered a fully functional solution to demonstrate value early, supporting momentum for broader adoption.

Our phased roadmap, governance advice, change management strategies, and KPI frameworks positioned the State to scale initial solutions and responsibly develop future GenAI tools. By embedding responsible innovation practices and sustainable governance structures, New Jersey strengthened its ability to lead in the ethical and effective deployment of emerging technologies — in alignment with the objectives for the Statewide Federated Data Governance Program.

Reference

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5.4.2 Example 2: Modernizing data infrastructure for a multinational utility through federated platforms and data products

Context

National Grid, a UK-based multinational electricity and gas utility with operations in the Northeastern U.S., set out to scale its digital transformation in a complex environment. With a diverse technology landscape; multiple teams working independently; and varying interpretations of the definition, purpose, and value of data products, aligning efforts proved challenging. Differences in data quality, visibility, and ownership across sources created opportunities to strengthen collaboration, streamline development, and build a more unified, enterprise-wide data strategy.

Approach

BCG partnered with National Grid to design a federated data platform ecosystem to enable cross-team, cross-domain data access, secure record linkage, and scalable data product development across multiple business units. The architecture spans seven layers, including digital services, data

and analytics, core systems, integration, security, infrastructure, and organizational ways of working, and provides reusable tools, self-service infrastructure, and consistent development standards to accelerate delivery, reduce costs, and foster collaboration.

Key features of the platform include: (1) a federated architecture with a hub-and-spoke-model to support distributed data ownership and governance, (2) secure, controlled access with real-time policy enforcement, role-based access controls, and audit capabilities, (3) integrated data sharing and matching to enable collaborative analysis and integrated reporting, (4) a tiered governance model aligned with regulatory requirements, (5) role-based enablement and training to drive sustainable adoption, and (6) a roadmap, starting with a 12-week MVP phase to demonstrate early value.

BCG also helped define National Grid's data product vision and strategy, articulating the benefit of data products as a foundation for emerging use cases across the enterprise.

To launch the initial phase of the program, BCG had to navigate challenges related to funding and adoption. Securing investment involved coordinating across multiple programs with different priorities to jointly fund core capabilities. This effort relied on early adopters willing to invest upfront and accept a degree of risk. Further complexity arose in unifying data from various digital product teams, each with distinct needs, standards, and ownership structures. We were able to address these challenges by aligning stakeholders around a shared vision for scalable data infrastructure and securing early buy-in from teams committed to building reusable, shared solutions.

Outcome

This initiative established a digital foundation to support a wide range of potential use cases. By recommending a federated architecture and data product approach, we helped National Grid explore the possibilities of a broader digital transformation. Our support contributed to greater organizational readiness for future opportunities. We built the data structure, data model, and pipelines to accelerate the development of minimum viable products, which in turn set the stage for faster delivery, potential cost savings, and greater reusability of components.

Reference

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5.4.3 Example 3: Unifying a global analytics platform to serve artists and audiences

Context

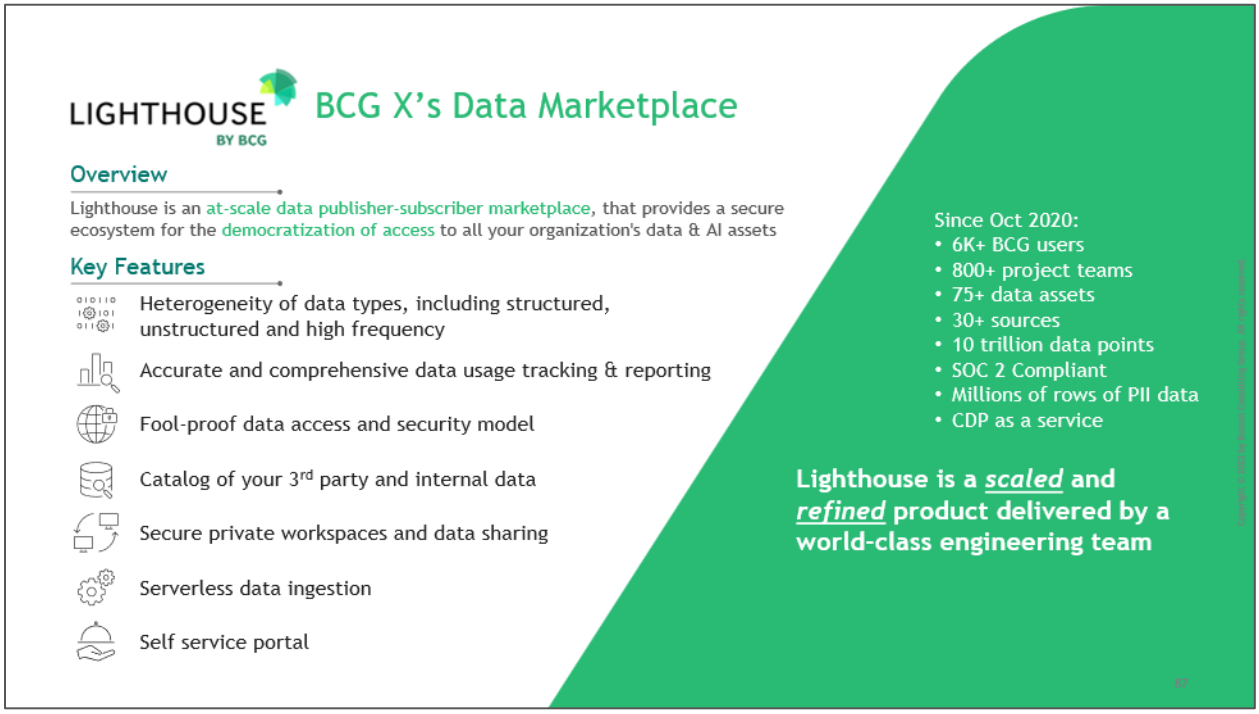
Universal Music Group (UMG) partnered with BCG to build an audience ecosystem that could finally turn rich customer data into action. The objective was to enable true 1:1 engagement at enterprise scale, connecting fans with artists and brands in meaningful, measurable ways. To get there, BCG deployed Lighthouse, our self-service data marketplace and analytics stack, to open up governed access for both business and data teams, speed time to insight, and simplify how data is used across channels. The solution unified partner streaming feeds, first-party behavioral and transactional signals, and operational and financial data into a single, resilient backbone.

Approach

BCG began with a comprehensive capability assessment across data, technology, analytics, content, and operating model. From that foundation, we designed and launched an enterprise Fan Data Hub - one platform and intelligence layer that consolidates fan insights, enables real-time 1:1 personalization, and delivers a seamless cross-channel experience. The architecture was built for scale, combining serverless ingestion for high-frequency events with scheduled pipelines for operational and financial data.

We then used Lighthouse, BCG's proprietary data marketplace, to pivot teams away from one-off third-party contracts and manual support toward a centralized, scalable self-service model. Lighthouse standardizes how data and models are discovered and accessed with a productized catalog, reusable templates, and operating tools that handle high frequency data (see Exhibit 22). It is interoperable by design and governed from day one with secure workspaces, clear stewardship, auditable usage, and SOC 2 compliant access to protect data while enabling accountable self-serve. At scale, Lighthouse supports more than one hundred billion data points and more than one hundred model types, which accelerates forecasting, model experimentation, and decision optimization. The new model reduced the time and effort required to stand up data assets, eliminated delays tied to access and infrastructure setup, and replaced fragmented processes with consistent, policy-driven operations.

Exhibit 22 15: Overview of BCG Lighthouse and its key features


LIGHTHOUSE
BY BCG
BCG X's Data Marketplace
Overview
Lighthouse is an at-scale data publisher-subscriber marketplace, that provides a secure ecosystem for the democratization of access to all your organization's data & AI assets
Key Features
Heterogeneity of data types, including structured, unstructured and high frequency
Accurate and comprehensive data usage tracking & reporting
Fool-proof data access and security model
Catalog of your 3rd party and internal data
Secure private workspaces and data sharing
Serverless data ingestion
Self service portal
Since Oct 2020:
• 6K+ BCG users
• 800+ project teams
• 75+ data assets
• 30+ sources
• 10 trillion data points
• SOC 2 Compliant
• Millions of rows of PII data
• CDP as a service
Lighthouse is a scaled and refined product delivered by a world-class engineering team

To sustain adoption, we established clear KPIs and value tracking for both team efficiency and data assets, streamlined change management, and rolled out training to raise data literacy across roles. We transitioned ownership to UMG's teams to keep momentum and launched FAME (Fan Analytics, Marketing, and E-Commerce) dashboards, giving labels and marketers daily visibility into campaign activity and direct-to-fan revenue by product, geography, demographic, and segment.

Outcome

UMG replaced manual, siloed data operations with a centralized Lighthouse marketplace and an enterprise-grade Fan Data Hub capable of integrating structured, unstructured, and high-frequency data via serverless ingestion. With privacy-by-design and governed self-service, teams can now activate real-time, 1:1 recommendations and measure impact consistently across channels, accelerating speed to value while maintaining compliance. The approach democratized access for business and technical users alike, delivering the scale, speed, and simplicity needed to grow the platform over time. It also produced tangible commercial results, including a revenue uplift from personalized outreach and gains in marketing effectiveness.

Press

Data In The Music Business: How Universal Music Group Is Leveraging Data And Analytics To Serve Its Artists And Audience (Forbes, Nov. 2023)

5.4.4 Example 4: Rapid prototyping to prove the feasibility of synthetic data for visual quality inspection

Context

Manufacturers are moving towards AI powered quality inspection, yet many lack the large and well labeled image sets needed to train reliable models. Recent advances in NVIDIA Omniverse have narrowed the Sim2Real gap, which makes synthetic data a practical way to jump start development while real images are scarce or expensive to obtain. BCG ran a seven-week proof of concept in electronics manufacturing to test whether a model trained only on synthetic images could detect real defects and to define a clear approach clients can adopt with confidence.

Approach

We began by setting two goals. First, we aimed to build the concept by clarifying where synthetic data creates measurable value across the inspection workflow. Second, we set out to prove the technology by delivering a working prototype that shows defect detection on real images.

To create representative training assets, we sourced a publicly available three-dimensional product model and refined it with a design studio partner so that form, material characteristics, surface finishes, and known defect patterns reflected production reality. Using NVIDIA Omniverse Replicator, we generated large, labeled datasets with purposeful variation in lighting, camera placement, materials, and defect types. This variety broadened coverage and reduced the risk of overfitting to a narrow set of conditions.

For model training, we selected AWS Lookout for Vision to accelerate time to first result with a ready service for computer vision. We trained a model on the synthetic dataset and iterated quickly based on validation performance. A light automation layer in Python orchestrated data generation, training runs, and evaluation, which reduced human in the loop effort and ensured repeatability.

Outcome

The proof of concept showed that a model trained exclusively on synthetic data can detect real world defects with convincing results. The work demonstrated how BCG can help clients unlock the potential of synthetic data in quality inspection, identified the enabling stack that brings the approach to life with NVIDIA Omniverse Replicator, AWS Lookout for Vision, and Python automation, and outlined the technologies and how a complete solution is built for future client implementations. Equally important, the team build hands on capability that shortens the path from idea to impact. Synthetic data generation is now mature enough to produce training data for visual quality detection and to compress time to value when labeled images are limited.

Reference

BCG internal proof of concept. Additional details are available upon request.

5.4.5 Example 5: Building a statewide framework for responsible AI

Context

The State of Michigan set out to accelerate AI adoption across government with a cohesive North Star Strategy and roadmap. BCG partnered with the Department of Technology, Management & Budget and Executive Agencies to shape that direction through responsible innovation. We supported the State in defining a North Star vision for AI, assessed DTMB readiness and AI skillsets, and facilitated workshops across all Executive Agencies to surface priorities, governance needs, and near-term opportunities. The strategic intent focused on elevating service delivery for residents, employees, visitors, and businesses guided by transparency and ethics.

Approach

BCG organized the work as an integrated program to maintain momentum and enable scale. We helped leadership articulate a statewide AI vision, guiding principles, and vision-level KPIs, and we worked with the AI Core Team and DTMB leaders to create decision-making frameworks for responsible AI and to clarify roles and responsibilities for effective AI governance. In parallel, we built a comprehensive inventory of agency pain points and AI opportunities through interviews, ideation workshops, DTMB Agency Services focus groups, BCG expertise, and external research. We grouped opportunities by common needs so shared capabilities could support many agencies, and we prioritized them by value and complexity. Predictive analytics to improve decision making consistently emerged as a high-value but more complex opportunity area.

To translate strategy into delivery, we assessed current AI tools and capabilities and established selection criteria for AI platforms aligned to Michigan priorities and the highest-priority use cases. For each opportunity, we defined objectives, KPIs, and resource needs, including data management and infrastructure, so teams could move from concept to delivery with clear guardrails. We also mapped the end-to-end journey for an agency building an AI solution with DTMB to surface friction points and strengthen collaboration across DTMB assets in service of responsible, secure, and effective solutions.

To sustain adoption, we identified skill gaps across roles and developed an upskilling plan that prepared the workforce for broader rollout.

Outcome

The engagement established a durable foundation for responsible and scalable AI across Michigan state government. The team (1) codified a statewide vision, guiding principles, and vision-level KPIs, (2) stood up decision-making frameworks and a governance structure, (3) delivered a prioritized portfolio of cross-agency use cases with value and complexity assessments, and (4) defined enterprise capability requirements and platform selection criteria tied to those priorities.

We also specified success metrics, data requirements, and infrastructure needs for each use case and created an upskilling plan to close capability gaps and support sustainable adoption. By aligning leadership, clarifying roles and responsibilities, and grounding choices in transparency and ethics, the State was positioned to scale AI solutions that improved service delivery and long-term value for stakeholders.

Reference

Client contact information is available upon request.

5.5 Case studies (Cont'd): BCG's proven delivery experience with IBM

BCG and IBM bring complementary strengths to build, launch, and operate the Commons. BCG leads with governance, the operating model, and an activist, whereas IBM provides engineering and build-to-run operations. Together, we've delivered enterprise data platforms and digital products across the public sector and healthcare, synchronizing data from complex, multi-source environments while meeting security, compliance, and interoperability requirements.

5.5.1 Example 6: Building a Global Med-Tech IoT Data Platform

BCG and IBM planned, designed, and built a large-scale, enterprise grade live-streaming data platform for sensitive healthcare data (see Exhibit 23). The solution ingests high volume IoT data, runs normalization and processing pipelines, and exposes federated data APIs that power external consumers, customer web and mobile apps, and an executive dashboard. IBM also stabilized and optimized platform architecture, coached large cross functional teams on product development, and supported iterative release management and Agile practices.

Exhibit 23: Overview of IBM and BCG partnership in building a live-streaming data platform

MEDICAL DEVICE COMPANY
Design and development of next-generation glucose monitoring platform.
The Outcome
28M +
DAILY PLATFORM INTERACTIONS
We developed and built a scalable and secure solution and technology architecture to support a rapid increase in data and users from the new medical device.
TIME TO MARKET
COACHING AND BUILDING HIGH-PERFORMANCE TEAM
Instilling the product-mindset and agile structures in a complex environment through product excellence coaching and developing high-performance teams.
STRATEGY
CREATING THE NEXT GENERATION PRODUCT
Working with the leadership team to develop the product and technology strategy, processes, and playbook to guide the next generation device.
DIALEXA
an IBM Company
NEXT GENERATION GLUCOSE MONITORING PLATFORM
The client engaged Dialexa as a key player in a mixed-vendor team to stabilize and optimize their architecture to support the launch of a new glucose medical device. Using our Dialexa approach, we assessed the current components and designed and developed the architecture improvements needed to scale for the global, consumer medical device.
With the foundational architecture in place, Dialexa began guiding the large teams on product development best practices, iterative design & release management as well as Agile coaching to increase release cycles and product quality.
With the development engine running smoothly, the client engaged Dialexa to refine and support the strategy and vision for the next generation release. The Dialexa team is creating both the technical and product strategy for the next release as well as the playbook.
INDUSTRY
Public / NGO
TECHNOLOGY
Kotlin
Springboot
Service-oriented architecture
SERVICES
Strategy
Engineering
Development
Testing

5.5.2 Example 7: Building digital front doors for healthcare systems

In partnership with IBM, we also designed, built and launched multiple customizable patient portals that integrate data from disparate internal and external systems (see Exhibit 24). Together we consolidated more than 20 fragmented apps into a streamlined web and mobile experience, speeding access to care and enabling a unified 360-degree self-service view that serves more than 1 million patients annually.

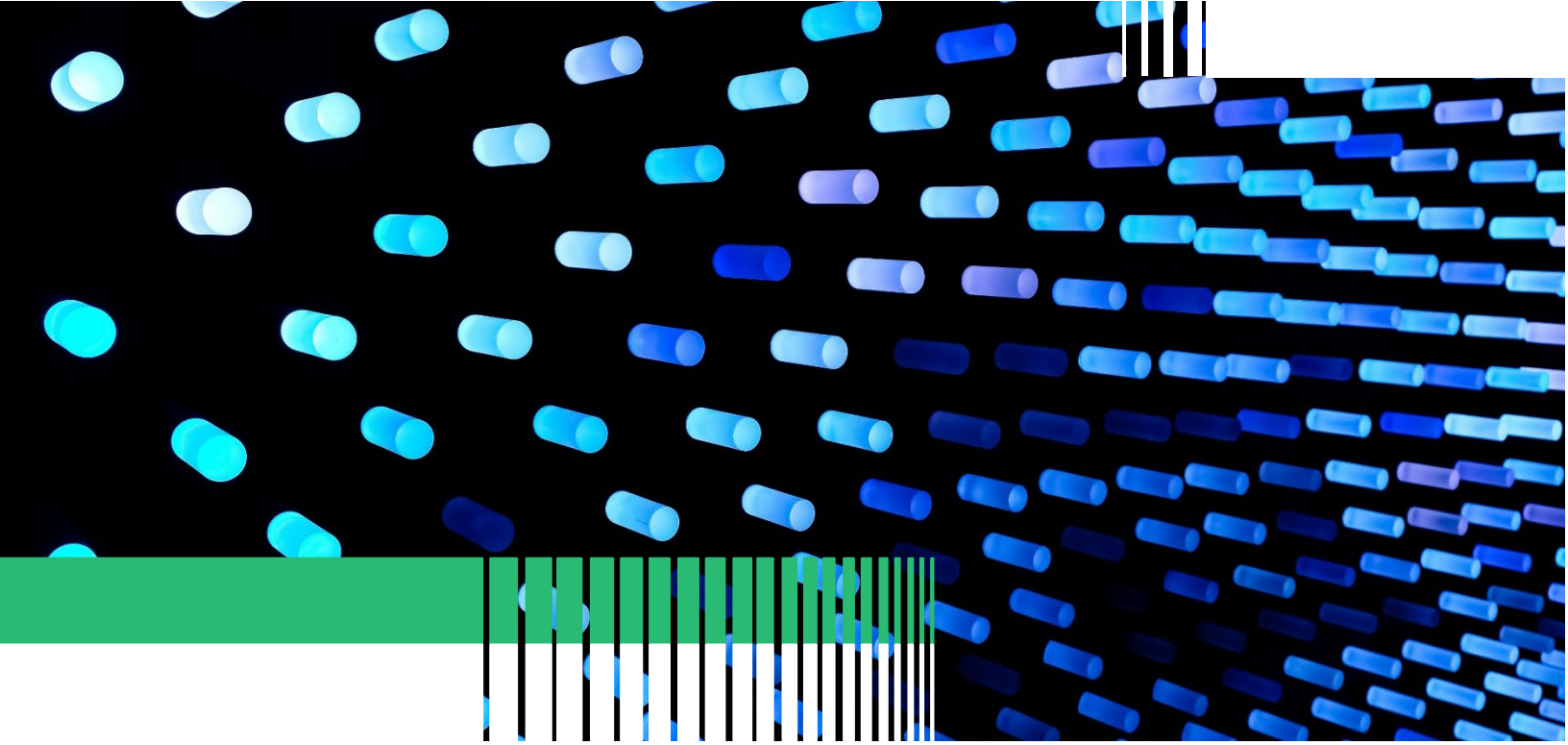
Exhibit 2416: Overview of IBM and BCG partnership in building an integrated data system

HEALTHCARE PROVIDER
A not-for-profit healthcare system and is one of the largest healthcare providers in the United States
The Outcome
2X
QUICKER SERVICE
Decreased the time needed to get care by 50% by creating a centralized patient application
1M+
PATIENTS SERVED
More than one million patients annually use the Digital Front Door solution to access their healthcare
360
DEGREE VIEW
Patients now have access to a complete view of their healthcare picture through the self service application
DIALEXA
an IBM Company
PROPERTY OF DIALEXA LLC ©2021 - CONFIDENTIAL & PROPRIETARY
HEALTHCARE PROVIDER
DIGITAL FRONT DOOR FOR PATIENT EXPERIENCE
Our Client had a vision to create a seamless customer experience that would bring the tasks of finding, managing and paying for care in a single, intuitive mobile and web app.
DIALEXA audited and assessed more than twenty apps that comprised the backbone of the current experience. The team leveraged Collaborative Quality skills to unify stakeholders around a common vision. Our team ultimately architected and built a modern, cutting edge platform that integrates data from disparate systems, accessible through a brand new streamlined web and mobile experience.
The improved experience resulted in customers getting the care they need more quickly and with an improved quality of care. This Client also adopted many of the DIALEXA agile practices in order to build a modern technology organization that will sustain their digital transformation over time.
INDUSTRY
Healthcare
SERVICES
Research & Design, Software Engineering, Architecture
TECHNOLOGY
React Web, ReactNative iOS and Android, Node.js
METHODOLOGY
Design Thinking
Product Strategy
Collaborative Quality
1

Together, BCG and IBM bring a proven partnership that turns data into secure, usable platforms with clear governance and disciplined execution. We will apply the same team model to the Commons, pairing strong program leadership with reliable build to stand up, launch, and grow the Commons with speed and confidence.

Reference

Darcie Mueller
Intermountain Healthcare Director of Software Engineering
darcie.mueller@intermountainhealthcare.org
1-801-641-1622



6 Organizational description & detailed biographies

6.1 Organizational description

When BCG was founded in 1963, we set out to pioneer bold, innovative approaches that help make the world a better place. And we have been living and breathing this mission every day since. From the start, BCG's vision has been to spread new ideas and challenge conventional wisdom, not just win business.

We have evolved over the past decades to meet the changing needs of our clients, expanding to ~20 industry and functional practice areas and leading the consulting industry in offering customized, strategic approaches to complex projects. With a global team exceeding 33,000 professionals, we are the leading consulting firm for driving impact because we consistently deliver higher standards than other consulting firms. We have invested in methodologies and tools to ensure that we can successfully help our clients assess the gaps between their present state and future ambitions and mobilize resources to successfully make the necessary change. Our accolades from independent sources speak to the value we provide to our clients:

- BCG consistently exceeds high client expectations – beyond our peers
- BCG has been recognized as a leader in digital transformation and AI services by The Forrester Wave in 2024 and the IDC MarketScape in 2023
- Clients show their trust in BCG by coming back – 89% of our work is with repeat clients

We bring to this effort our traditional strategy consulting expertise as well as that of our dedicated digital practice, BCG X. BCG X unites 3,000+ technologists, data scientists, programmers, engineers, and human-centered designers into a single tech, build, and design unit to deliver integrated, end-to-end solutions that maximize impact at scale. Our deep industry knowledge and world-class expertise in technology, AI and GenAI, and design enable clients to comprehensively transform their organizations and rapidly build game-changing new products, services, and organizations ready to run from day one. Our products and solutions generate immediate and tangible results, at scale.

In addition to our capabilities, we bring a unique partnership with IBM, whose long-standing legacy in enterprise-grade software and product development enables us to translate strategy and vision into real-world platforms at scale. Together, we have delivered more than 25 joint programs, engaging over 200 contributors. This collaboration has consistently brought new digital products to market that realize our clients' strategic ambitions, generate new revenue streams, optimize existing ones, and improve operational efficiency across industries worldwide. For the DCC, this proven partnership ensures that Massachusetts' vision will not remain on paper – it will be implemented as a secure, scalable, and user-centered platform that delivers immediate impact and long-term value.

6.2 Leadership team biographies

Vladimir Lukic

Managing Director and Senior Partner, Boston

Profile summary

Vladimir is a Managing Director & Senior Partner at BCG and the Global Leader of the firm's Tech & Digital Advantage Practice and AI at Scale Agenda. With more than 20 years of experience, he guides clients through complex digital and analytics transformations, helping organizations accelerate large-scale, end-to-end technology initiatives. Vladimir has established and scaled analytics teams and digital Centers of Excellence across industries, enabling long-term capability building, governance, and measurable operational impact.

Relevant experience

BCG experience

- Led a variety of advanced analytics and digital initiatives, including demand forecasting, network optimization, predictive maintenance, and automation/robotics solutions
- Developed digital transformation strategies for multiple organizations across industries
- Established and scaled digital and analytics teams for several clients, enabling long-term capability building and operational impact
- Built BCG's analytics and digital teams (from 0 to >1,000 FTEs)

Prior experience

- Implemented complex IT solutions and business development efforts for a firm in Southeastern Europe

Education

- MBA from MIT Sloan School of Management
- BS Mechanic Engineering, Maua School of Engineering, Brazil

Dan Martines

Partner & Vice President, Boston

Profile summary

Dan Martines is a Managing Director with BCG X's Boston office. He has 25 years of experience in AI, Tech, and Data. Including data platform design, engineering, architecture and implementation, primarily in Insurance, and Financial Institutions.

Relevant experience

Martines is a co-founding member of BCG's Global Center for Generative AI and leads client work across sectors on Gen AI and Digital transformations.

- Sought after speaker in Gen AI, AI and Data, covering C-suite, boards, and conferences. Presented to audiences ranging from 300 to 3,000 in US, Europe, and Asia.
- Leading implementation of GenAI Data Management solution to automate lineage and metadata capture in two leading Financial Institutions, one with Global reach and one in North America.
- Established end-to-end Data platform and capability at Healthcare company.
- Led scaled Gen AI transformation at leading US life insurer. Jumpstarted central GenAI incubation team and supported the development and launch of four high value GenAI use cases.
- Led Gen AI project for CFO function to generate Annual Reports, for large Oil & Gas corporation.
- Implemented Customer Service chatbot pilot for Large Global Universal Bank.
- Launched BCG GenAI Demo Factory, supporting 100+ Gen AI prototypes across sectors.
- Beta tested Google's Generative AI platform (Vertex, Model Garden).
- Developed Gen AI working partnership with Google and Scale.ai.
- Led AI transformation at global healthcare leader in clinical trial. Managed program from diagnostic, to strategy, design and implementation of AI platform.
- Sponsored multiple internal BCG initiatives on Gen AI to develop tech perspective, costing models and a Gen AI prototyping factory.
- Launched AI Personalization platform on Azure for largest pharmacy retailer in US.

Education:

- MBA, MIT Sloan School of Management
- BS Mechanic Engineering, Maua School of Engineering, Brazil

Etugo Nwokah

Managing Director and Partner, New York

Profile summary

Etugo is a Managing Director & Partner at BCG with more than 18 years of experience leading digital innovation across both private and public sectors. He brings deep expertise in digital strategy, product management, human-centered design, and AI solutions – paired with a strong track record of delivering integrated data platforms and enterprise technology solutions for U.S. government agencies. Etugo led the design and stand-up of a digital Center of Excellence, developed governance models to support cross-agency data sharing, and driven the implementation of scalable, mission-aligned data systems that enable long-term impact.

Relevant experience

BCG experience

- Developed IT Operating Strategy and Roadmap for State Economic Development Agency that has scaled to $500M in funding/disbursements in five years
- Developing Data Governance, Operating Model and Center of Excellence for State Economic Development Agency

Prior experience

- Chief Product Officer of WellMatch (corporate venture inside of Aetna Inc.) focused on cost transparency. Exited with internal merger and partnership with Apple Inc.
- Senior VP of Product Management for Zipari, consumer experience platform for payers leveraging AI to deliver intelligent messaging (acquired by Thoma Bravo in 2020 for $500M)
- Senior VP of Product Management for Capital Rx, NextGen PBM
- Independent product consulting for digital healthcare startups including Patina, Series A backed by Google Ventures and Andreessen Horowitz

Education

- MBA from University of Chicago Booth; Certificate in Health Administration and Policy
- B.S. in Industrial Engineering from Perdue University

Val Panier, PhD

Senior Partner and Managing Director, Boston

Profile summary

Dr. Panier is a seasoned strategist with over 25 years of experience at Boston Consulting Group (BCG), where he serves as Managing Director and Senior Partner based in Boston. Val leads the firm's global efforts in Technology & Digital Acceleration in Healthcare and is a member of the Healthcare Practice Leadership Team. This past year, Val has been leading BCG's work with the Massachusetts AI Hub, overseeing strategy development and the stand-up of the Hub's Education & Training for Workforce Development and Startup & Innovation Working Groups.

Relevant experience

- Val brings deep expertise across the biopharma and life sciences sectors. He has lived and served clients across North America, Europe, and Asia –including leading pharmaceutical companies, biotech firms, research institutions, and private equity investors. His work spans growth strategy, technology capability building, operating model transformation, innovation acceleration, and M&A. His thought leadership has been featured in leading journals such as Nature Reviews Drug Discovery, with a focus on innovation and R&D productivity.
- Over the past six months, Val has led BCG's work with MassTech and the MA AI Hub to define the Hub's strategic vision and stand-up key working groups in education and training, as well as startup and innovation enablement.
- He previously led the firm's Healthcare Practice in North America (2018–2023) and earlier headed the firm's global Biopharma R&D business. Val is a member of BCG's Audit and Risk Committee and serves on multiple senior leadership committees within the firm.

- Beyond BCG, Val contributes to the Commonwealth's economic development as a board member of the Massachusetts High Technology Council.

Education

- Research Scholar at the Massachusetts Institute of Technology (MIT)
- MBA from the Sloan School of Management
- Engineering degree and a Ph.D. in management science with a specialization in statistics from his native Belgium

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BCG

Mike Troisi

Managing Director
Platinion, Boston

Profile summary

Mike brings 20 plus years in M&A, transformation and management consulting specializing in application integration, architecture, data management and business reengineering.

Relevant experience

- Led enterprise application architecture as Chief Architect of the enterprise/risk data aggregation and digital transformation strategy for two global bank. This included a 3-5 year road mapping plan to rationalize and consolidate applications.
- Architected a cloud based transformation platform to deliver unified data and processes across diverse legacy systems. Platform is designed for Financial Services, healthcare and Manufacturing companies and combines SOA, best practice accelerators and templates, and API's to deliver structured and unstructured management reporting & operational data to executive and management teams.
- Managed application integration approach and data management teams for the merger of nine companies. Created a new target technology and operating structure for (SAP/HANA, IBM, Microsoft, Workday and BI), including a utility based SOA interim strategy.
- Defined "next gen" technical plans based on the assessment and review of core target applications (65+), data architecture, analytics and infrastructure, across Corp. HR/Payroll (Workday), Corp Finance (SAP/ORACLE/PS), Inventory (SAP) and Manufacturing (Microsoft Dynamics), Treasury and Risk, Customer (IBM/Watson), BI/BW and custom Profitability systems.
- Led the integration, merger and alignment of 8 global companies, including, application rationalization and consolidation of infrastructure. Matured COE services and achieved the Advanced SAP CCOE services certification from SAP. Implemented data governance standards, protocols, ownership models and review/approval processes.
- Chaired the Enterprise Architecture and Data Standards Committee for a global bank.
- Led the outsourcing of dev ops, infrastructure, web based services and data, resulting in the expansion and analytics teams and reduced integration management.
- Led architecture team at a Global Bank, including the application, infrastructure, security, business process information, and integration domains. Led the mutli-generational application rationalization strategy to reduce over 500 disparate technologies to under 40 within 3 years. Managed a zero growth hardware agenda. Defined standards, controls governance and policy across the ECIO and LOB'S.

Education

- Global Management at Wharton School of Business
- MS from Suffolk University

BCG

Lisa Vura-Weis

Managing Director and
Partner, Boston

Profile summary

Lisa is a Managing Director and Partner at BCG and a former Deputy Chief of Staff to Rhode Island Governor Gina Raimondo and Acting Secretary of Health and Human Services. In her government roles, she led statewide health policy and stood up the state's COVID-19 response. While in the Governor's Office, Lisa partnered with ETSS (then-DOIT) to establish governance

and restructure state IT operations. At BCG, she has led efforts across multiple states on a range of projects including strategic design, operational improvement, and digital modernization. Lisa brings deep expertise in cross-agency strategy, large-scale operations, crisis management, and public-private leadership. Lisa is deeply involved in state-wide transformation efforts focused on IT, HR, and Procurement.

Relevant experience

BCG experience

- Led multiple health & human services strategic and operational improvement projects. Focused on IT operating model and data & analytics changes required to better manage the health system and deliver more resident-centric services

Prior experience

- Worked closely with Rhode Island's ETSS (formerly DOIT) to establish new organization model, establish project investment and management governance, and establish cybersecurity leadership
- Served as business sponsor for Rhode Island EOHHS's data ecosystem, supporting build-out of data governance across agencies, and expansion of data analytics capabilities
- Supported remediation of UHIP, working closely across EOHHS and ETSS to establish new project governance, vendor management
- Led Rhode Island's health & human services secretariat, with oversight across Medicaid, behavioral health, child welfare, and public health

Education:

- MBA from Columbia University
- MPA from Princeton University
- B.A. in Economics from Harvard University

BCG

John Wu, PhD

Managing Director and Partner, Boston

Profile summary

John is a Managing Director and Partner in the Boston office of BCG. He combines strategic acumen and deep scientific expertise to help industry-leading biopharma clients tackle their most critical strategic, operational, and organizational challenges, with a focus on R&D topics.

Relevant experience

R&D governance, organization, and operations

- Multiple engagements to redesign the R&D organization and operating model for biopharma clients, both in the context of post-merger integration and standalone transformations

Regulatory transformation and submission excellence

- Multiple engagements to support evolution of the Regulatory Affairs organization and operating model, including specific experience in accelerating regulatory submission through organization, process, and technology enhancements to achieve industry leading speed from LPLV to Submission.

Trial optimization and acceleration

- Multiple engagements in optimizing clinical trial execution, covering levers across study design, site engagement, and patient recruitment.

Landscaping, diligence, and strategic assessment of new technologies and treatment modalities, including cell and gene therapy, and gene editing

- Multiple engagements including assessment of cell therapy landscape and evolution, and development of disease area strategy with focus on emerging modalities
- BCG's topic expert on cell and gene therapy, and gene editing

Education

- PhD in Engineering and Physical Biology from Harvard
- BS in Biology from MIT

IBM

Nick Antonelli

Enterprise Architect

Profile summary

Nick Antonelli is a hands-on enterprise and solution architect. He has designed global, cloud-agnostic platforms handling approximately 10,000 transactions per second, led teams of more than 100 engineers, and scaled product-engineering offerings across complex programs.

Relevant experience

- National healthcare platform: led one of the largest EHR-integration data platforms (approximately $300M across 18 squads).
- Cardiac MedTech: authored the North-Star architecture and roadmap for an AI-enabled analysis platform.
- Glucose monitoring: re-architected a consumer platform, migrated about 2M active users, and designed for high throughput.

Education

B.S. in Advertising from University of Texas at Austin.

IBM

Stephanie Payne

Product Strategist

Profile summary

Stephanie Payne is a product strategy and go-to-market leader with more than 15 years of experience. She has created portfolio and roadmap frameworks, driven executive alignment and investment decisions, and now leads Financial Services GTM at IBM to accelerate AI and cloud adoption and establish product operating models at enterprise scale.

Relevant experience

- **IBM GTM Lead** (Financial Services): connects product vision to build execution to accelerate time to market and adoption.
- **Heavy duty OEM program**: secured major investment for a next gen dealer configuration platform; stood up product operating model and roadmap.
- **Connected vehicle platform** (4.2M subscribers): designed onboarding framework and next gen features to lift satisfaction and retention.
- **Enterprise product acceleration**: instituted governance and execution frameworks to scale product delivery across business units.

Education

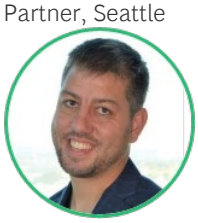
B.S. in Advertising from University of Texas at Austin.

6.3 Additional expertise

BCG

Aaron Arnoldsen

Managing Director and Partner, Seattle



Profile summary

Aaron has a deep expertise in product management, strategy, data products, and digital go-to-market deployments at scale. Aaron has excelled in developing and executing data driven analytic strategies that integrate customer & operational applications into deployable software, tools, and processes to optimize business outcomes. Aaron has deployed solutions across supply chain, planning (financial, assortment, space), consumer personalization, pricing, resort & theme park bookings & pricing, and fashion demand sensing.

Relevant experience

- **BCG**: Built Lighthouse by BCG that has serviced over 300 client business cases in customer and company intelligence, operations, and data monetization. Has 3 pending patients in clean room technologies, demand forecasting, and personalization data stitching.
- **Supply Chain – At Nike:** Developed and set the vision, strategy, and execution model to globally align business inventory processes & implemented a $40M big data driven custom software analytical tool set to execute allocations from distribution centers to Nike owned stores in the 13 countries Nike Direct does business. Tool & expected EBIT impact over five years is $300M as evaluated by an outside consulting firm
- **Pricing – At Nike**: Developed and set the vision, strategy, and execution model for a best in breed price management solution including price management, price optimization, price elasticities, & price process change including the investment needed to run program. Expected EBIT return of $1.5B. Project in flight with deployments in EU, NA, and China
- **Merchandise / Food & Beverage Theme Park Operations – At Walt Disney**: Created & implemented the process of park hour optimization resulting in insights identifying over $50M annual park hour labor impact to F&B and Merchandise lines.

Education

- Masters of Analytics from Northwestern University.
- MBA from the University of Florida.
- B.S. in Economics from BYU.

IBM

Kevin Gnadinger
Lead Engineer

Profile summary

Kevin Gnadinger is a software engineer and data/AI architect with more than 10 years of experience. He leads teams that build scalable, event-driven systems and has delivered longitudinal patient records, GenAI data pipelines, and enterprise data layers in healthcare and other regulated industries

Relevant experience

- **Mayo Clinic:** architected a multi-layer Longitudinal Patient Record (FHIR, embeddings, knowledge-graph search) enabling enterprise GenAI and unified search.
- **Vertex**: built GenAI data pipelines in Azure Synapse with C#/.NET to automate complex product classification.
- **Ascension Health**: led enterprise data-layer modernization, unified structured and unstructured data, and managed a 20-person engineering team.

Education

B.A. in Anthropology & Mathematics, Texas A&M University.

IBM

Amy McMasters
Engineer (Dataverse / Power Platform, IBM)

Profile summary

Amy McMasters is a Power Platform and SharePoint specialist with more than 20 years of experience. She designs and builds enterprise workflows, dashboards, and applications using Power Apps, Power Automate, Power BI, and Dataverse.

Relevant experience

- **D365 automation**: built Power Automate flows integrating Azure Data Factory and Dataverse and developed SSIS pipelines.
- **Parkland Hospital**: led SharePoint Online administration and migration and created custom apps with Power Automate.
- **Plains All American**: led a modern SharePoint hub build with Power Apps/Flows for a unified intranet.
- **Medtronic**: authored Power BI dashboards spanning SQL, Oracle, SharePoint, and SAP HANA.

Education

- B.S., Information Technology (in progress, 2026), University of Phoenix.
- Microsoft Certified: Power Platform Fundamentals (2025).

IBM

Mankaran S. Chhatwal
Engineer (CKAN, IBM)

Profile summary

Mankaran S. Chhatwal is an AI solutions architect with more than eight years of experience delivering scalable analytics and machine-learning solutions on GCP, Azure, and AWS. He works across the full lifecycle from strategy and architecture through production delivery, including data-governance implementations with CKAN and Apache Atlas.

Relevant experience

- **ExxonMobil**: implemented data governance with CKAN and Apache Atlas on a cloud-native big-data platform.
- **Global automotive OEM**: defined AI strategy and multi-workstream roadmaps on Azure/Databricks.
- **Toyota**: designed and led a recommendation engine serving about 100,000 requests per day.
- **Palo Alto Networks**: designed an agentic-AI knowledge base to reduce time-to-resolve.

Education

- M.S., Applied Cognition & Neuroscience (HCI), University of Texas at Dallas (2019).
- B.F.A., Communication.

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Sarah Smyth

Profile summary

Design Lead

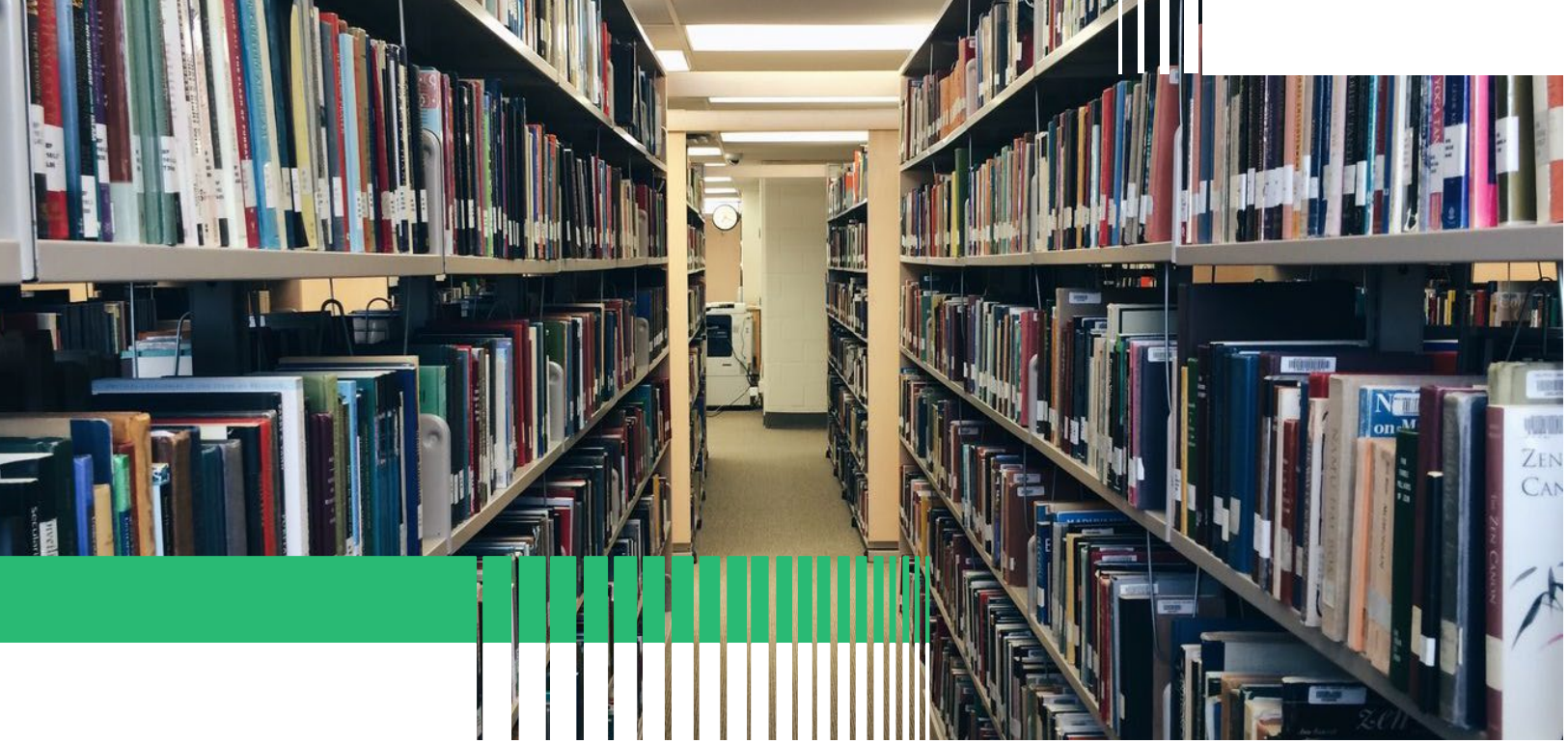
Sarah Smyth is a human-centered design leader. She drives research-to-prototype cycles, simplifies complex workflows, and aligns stakeholders to deliver usable, adopted products in regulated and mission-critical settings

Relevant experience

- **Investment management platform**: led discovery, prioritization, and the modernization roadmap.
- **UNISYS Digistics**: simplified cargo-tracking UX to reduce onboarding time and increase task completion.
- **Toyota**: ran multi-stakeholder blueprint workshops and delivered interactive service blueprints adopted by engineering.
- **Healthcare (TractManager):** led research, IA, user flows, and prototypes and partnered with engineering in sprint cycles.

Education

- M.S., Applied Cognition & Neuroscience (HCI), University of Texas at Dallas (2019).
- B.F.A., Communication/Interactive Design, Abilene Christian University (2014).



7 Appendix

7.1 Attachment B

Massachusetts Technology Collaborative

Authorized Respondent's Signature and Acceptance Form

The undersigned is a duly authorized representative of the Respondent listed below. The Respondent has read and understands the RFP requirements. The Respondent acknowledges that all of the terms and conditions of the RFP are mandatory, and that Respondent's response is compliant with such requirements.

The Respondent understands that, if selected by the Mass Tech Collaborative, the Respondent and the Mass Tech Collaborative will execute an Agreement specifying the mutual requirements of participation.

Respondent agrees that the entire bid response will remain valid for sixty (60) days from receipt by the Mass Tech Collaborative.

I certify that Respondent is in compliance with all corporate filing requirements and State tax laws.

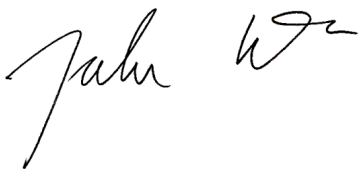
I certify that the statements made in this response to the RFP, including all attachments and exhibits, are true and correct to the best of my knowledge.

I acknowledge and understand the procedures for handling confidential materials submitted to the Mass Tech Collaborative as set forth in Section 3.1(d); I agree to be bound by those procedures and agree that the Mass Tech Collaborative shall not be liable under any circumstances for the disclosure of any materials submitted to the Mass Tech Collaborative pursuant to this RFP or upon the Respondent's selection.

Respondent:

The Boston Consulting Group, Inc.

By:



Name: John Wu

Title: Managing Director and Partner

Date: 10/7/2025

7.2 Attachment C

Budget Template – please see Excel spreadsheet titled, 2. Services Budget Template

BOSTON CONSULTING GROUP

7.3 Respondent's W-9

Form **W-9**
(Rev. March 2024)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give form to the requester. Do not send to the IRS.

Before you begin. For guidance related to the purpose of Form W-9, see *Purpose of Form*, below.

Print or type. See *Specific Instructions* on page 3.

1 Name of entity/individual. An entry is required. (For a sole proprietor or disregarded entity, enter the owner's name on line 1, and enter the business/disregarded entity's name on line 2.)

The Boston Consulting Group, Inc

2 Business name/disregarded entity name, if different from above.

3a Check the appropriate box for federal tax classification of the entity/individual whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor ☑ C corporation ☐ S corporation ☐ Partnership ☐ Trust/estate

☐ LLC. Enter the tax classification (C = C corporation, S = S corporation, P = Partnership) . . . .

Note: Check the "LLC" box above and, in the entry space, enter the appropriate code (C, S, or P) for the tax classification of the LLC, unless it is a disregarded entity. A disregarded entity should instead check the appropriate box for the tax classification of its owner.

☐ Other (see instructions)

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) 5

Exemption from Foreign Account Tax Compliance Act (FATCA) reporting code (if any)

(Applies to accounts maintained outside the United States.)

3b If on line 3a you checked "Partnership" or "Trust/estate," or checked "LLC" and entered "P" as its tax classification, and you are providing this form to a partnership, trust, or estate in which you have an ownership interest, check this box if you have any foreign partners, owners, or beneficiaries. See instructions . . . . . ☐

5 Address (number, street, and apt. or suite no.). See instructions.

200 Pier 4 Blvd

Requester's name and address (optional)

6 City, state, and ZIP code

Boston MA 02210

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. See also *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

[ ][ ][ ] – [ ][ ] – [ ][ ][ ][ ]

or

Employer identification number

0 4 – 2 4 3 2 6 1 4

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and, generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here **Signature of U.S. person** Robert Victorio **Date** 03-18-25

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

What's New

Line 3a has been modified to clarify how a disregarded entity completes this line. An LLC that is a disregarded entity should check the appropriate box for the tax classification of its owner. Otherwise, it should check the "LLC" box and enter its appropriate tax classification.

New line 3b has been added to this form. A flow-through entity is required to complete this line to indicate that it has direct or indirect foreign partners, owners, or beneficiaries when it provides the Form W-9 to another flow-through entity in which it has an ownership interest. This change is intended to provide a flow-through entity with information regarding the status of its indirect foreign partners, owners, or beneficiaries, so that it can satisfy any applicable reporting requirements. For example, a partnership that has any indirect foreign partners may be required to complete Schedules K-2 and K-3. See the Partnership Instructions for Schedules K-2 and K-3 (Form 1065).

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS is giving you this form because they

Cat. No. 10231X Form **W-9** (Rev. 3-2024)

7.4 Conflict of Interest Statement

After reviewing the scope of work in this Solicitation, we do not believe that BCG has a perceived or actual conflict of interest at this time. For all projects, BCG proactively monitors any instance of perceived or actual conflict of interest, and we also mitigate potential conflict of interest situations through close adherence to our company conflict of interest policies. These policies are designed to ensure potential conflicts are quickly identified and effectively managed. Because BCG is a global company that enters into contracts daily, we reserve the right to update this disclosure if selected for award under this Solicitation.

By serving multiple companies in the same industry and working across tangential industries, BCG has been able to deepen our industry and functional knowledge and increase our ability to take an informed view of the strategic issues facing our clients. Working in an inter-connected world, our services for one client frequently have the potential to impact the interest or decisions of other clients. For example:

BCG has a robust Public Sector & Technology practice and ongoing, confidential client relationships with state government agencies, research institutions, and technology collaboratives. BCG has, and will continue to, bid for work with state government agencies, research institutions, and technology collaboratives in the Public Sector (State Government / Innovation & Research) sector.

BCG's USG consulting practice offers a full range of technology solutions and services that help U.S. Federal Government, state & local governments realize a bold vision for responding to today's, and tomorrow's most pressing needs and challenges. BCG is working with both national and state & local governments to support the design, development, and launch of the AI Hub Data Commons Collaborative. We anticipate that BCG will continue to pursue similar opportunities.

The team working on this contract has received training on strict procedural and technical protocols to ensure that the information shared by clients is kept appropriately secure and confidential. The project leadership will continue to reinforce these practices and the team will undertake appropriate training and guidance from Massachusetts Technology Collaborative (MassTech) on behalf of the Massachusetts AI Hub as requested and/or required. Some of the key principles that BCG teams practice in performing contracted services include the following:

- BCG adheres to strict confidentiality obligations with its clients and ensures that each BCG consultant is trained to abide by these obligations and our internal procedures;
- Each individual client team establishes confidential "firewalls" between itself and any project teams working in any relevant industry and/or practice group (and the rest of the company and all third parties), so that no information is shared with unauthorized individuals or entities;
- BCG will not concurrently serve clients on both sides of a particular matter, and individual BCG employees will not simultaneously serve different clients on the same topic; and
- BCG employs technical security and encryption protocols to ensure all confidential information is safeguarded securely from inadvertent disclosure of any kind.

In support, and in addition to all of the above, as the leader of BCG's team for this project, John Wu will work with Massachusetts Technology Collaborative (MassTech) on behalf of the Massachusetts AI Hub to evaluate and address any potential perception of conflict of interest, or related issues.

Massachusetts Technology Collaborative

Grant Agreement
Standard Budget and Invoice Template
Invoiced Costs

Line Number	Budgeting		
2	Applicant Information		
3	Applicant: Boston Consulting Group	Procurement No.: RFP No. 2026-JAII-01	
4	Budget Period: Phase 0 (4 Weeks From Award)	Title of Proposed Project:	
5	Address:	Proposal for AI Hub Data Commons	
6	200 Pier 4 Boulevard	Collaborative Consulting Services	
7	Boston, MA 02210		
8		MTC Funding Requested:	
9		Total Project Cost:	
10	Cost Elements		Total Project
57	**Total PROJECT COSTS**		**$250,000**